VOLUME LV
NUMBER FIVE

THE NATIONAL GEOGRAPHIC MAGAZINE

MAY, 1929

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ORGANIZED FOR "THE INCREASE AND DIFFUSION OF GEOGRAPHIC KNOWLEDGE"

TO carry out the purposes for which it was founded forty-one years ago the National Geographic Society publishes this Magazine monthly. All receipts are invested in the Magazine itself or expended directly to promote geographic knowledge.

ARTICLES and photographs are desired. For material which the Magazine can use, generous remuneration is made. Contributions should be accompanied by addressed return envelope and postage.

IMMEDIATELY after the terrific eruption of the world's largest crater, Mt. Katmai, in Alaska, a National Geographic Society expedition was sent to make observations of this remarkable phenomenon. Four expeditions have followed and the extraordinary scientific data resulting given to the world. In this vicinity an eighth wonder of the world was discovered and explored—"The Valley of Ten Thousand Smokes," a vast area of steaming, spouting fissures. As a result of The Society's discoveries this area has been created a National Monument by proclamation of the President of the United States.

AT an expense of over $50,000 The Society sent a notable series of expeditions into Peru to investigate the traces of the Inca race. Their discoveries form a large share of our knowledge of a civilization waning when Pizarro first set foot in Peru.

THE Society also had the honor of subscribing a substantial sum to the expedition of Admiral Peary, who discovered the North Pole, and has contributed $25,000 to Commander Byrd's Antarctic Expedition.

NOT long ago The Society granted $25,000, and in addition $75,000 was given by individual members to the Government when the congressional appropriation for the purpose was insufficient, and the finest of the giant sequoia trees of California were thereby saved for the American people.

THE Society has conducted extensive excavations at Pueblo Bonito, New Mexico, where prehistoric peoples lived in vast communal dwellings before the days of Columbus; it is sponsoring an ornithological survey of Venezuela, and is maintaining an important photographic and botanical expedition in Yunnan Province, China.

TO further the study of solar radiation in relation to long range weather forecastings, The Society has appropriated $60,000 to enable the Smithsonian Institution to establish a station for four years on Mt. Brukkaros, in Southwest Africa.

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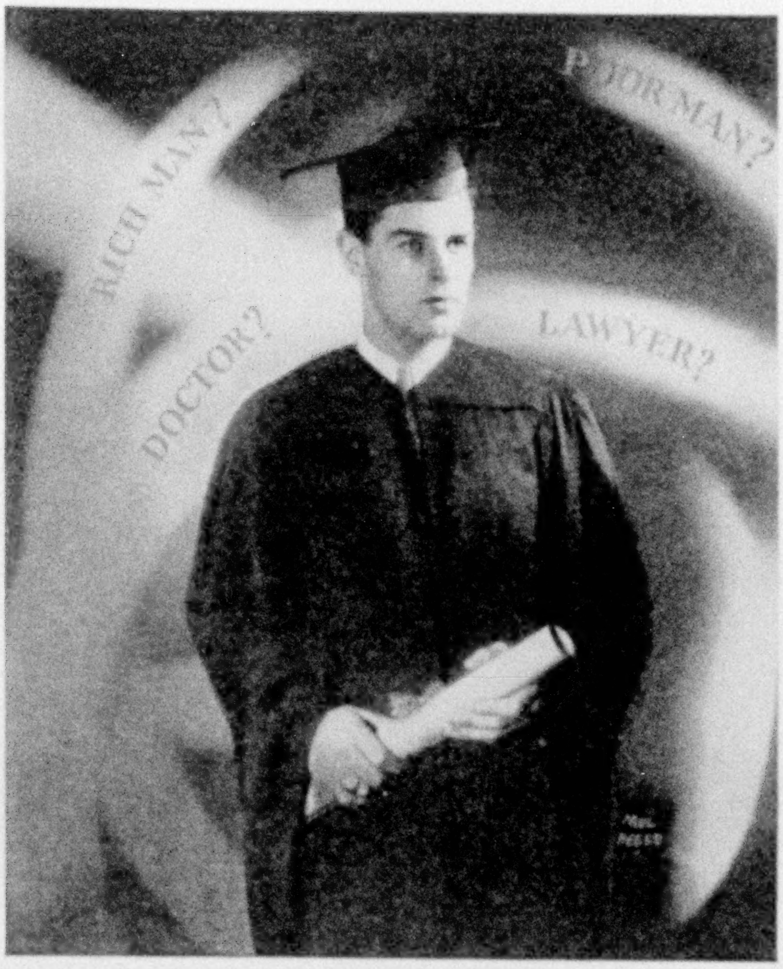
What can you give him to help him towards success?


RICH MAN?
POOR MAN?
DOCTOR?
LAWYER?

IN a dozen little ways you've always thought of him almost as a child. "The boy," you said with a sigh of relief. "Oh, he's still at college."

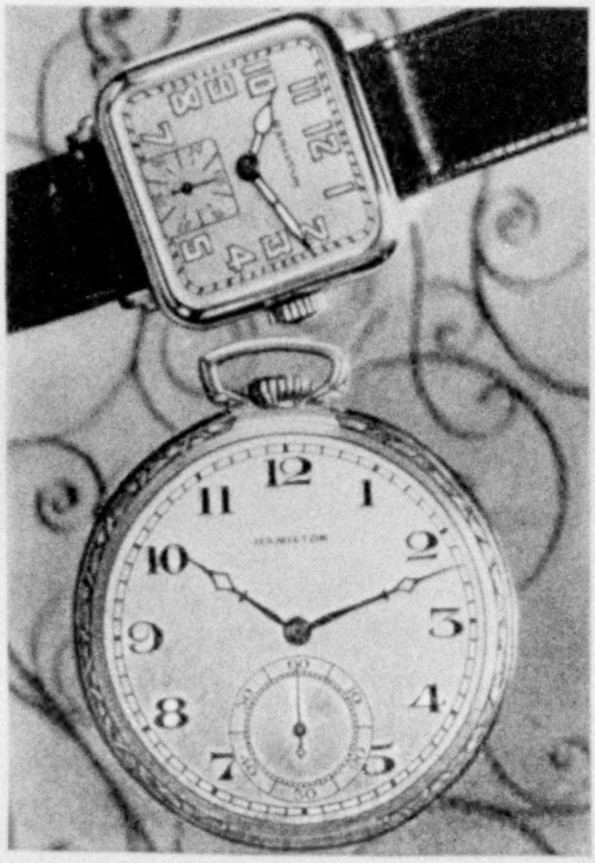
But now "the boy" is about to step into a new world. On his own. For better or worse.

Do you know that your graduation gift to him can actually be something that will help him to success? The world can tell a man on the road to success by the time he carries.

After firing the question "What time have you?" at hundreds of men in every walk of life, this fact stands out: the higher you go in business or the professions, the more exact watches you will find.

So give the graduate a Hamilton. Successful men carry watches that are accurate to the dot . . . and a surprisingly large number of these men have Hamiltons in their watch-pockets or strapped on their wrists. Hamiltons range from $48 upward.

Let us send you a copy of "The Timekeeper," a booklet that will prove of much value when you choose that graduation gift for your son or daughter. It not only shows a complete line of beautiful Hamilton models, but tells something of the exquisite care that goes into their creation. Address Hamilton Watch Company, 882 Columbia Avenue, Lancaster, Pennsylvania, U. S. A.



Top—*The "Hastings"—Beautifully proportioned in line, and masculine in appearance is this beautiful strap model. In 14k filled yellow or white gold, $55—in 14k gold, $85.*

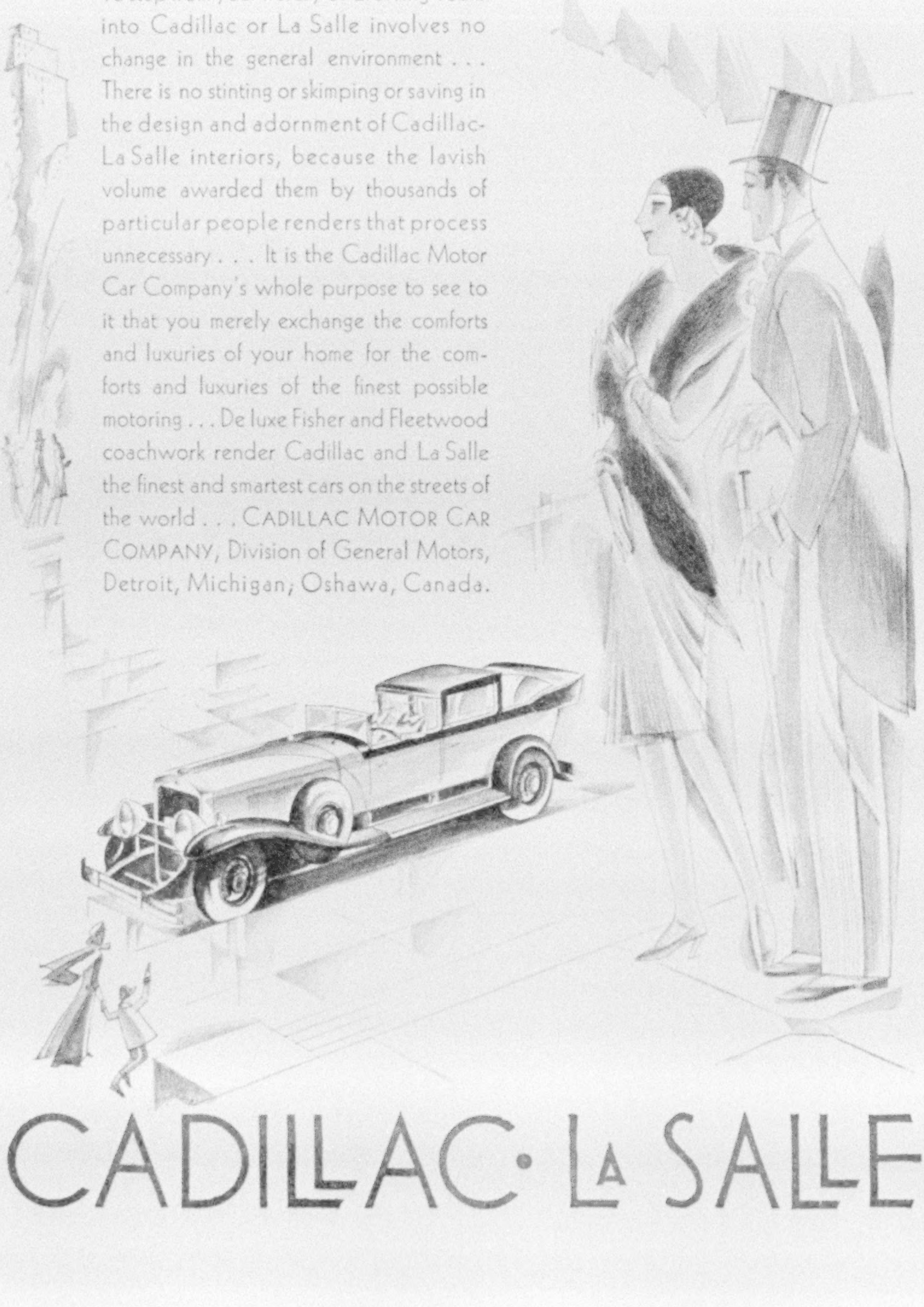
Below—*The "Rittenhouse"—This harmoniously designed Hamilton with its gothic face and exquisite simplicity holds a subtle charm all its own. Available in 14k filled green or white gold, with dial shown, $70 to $120.*

Hamilton

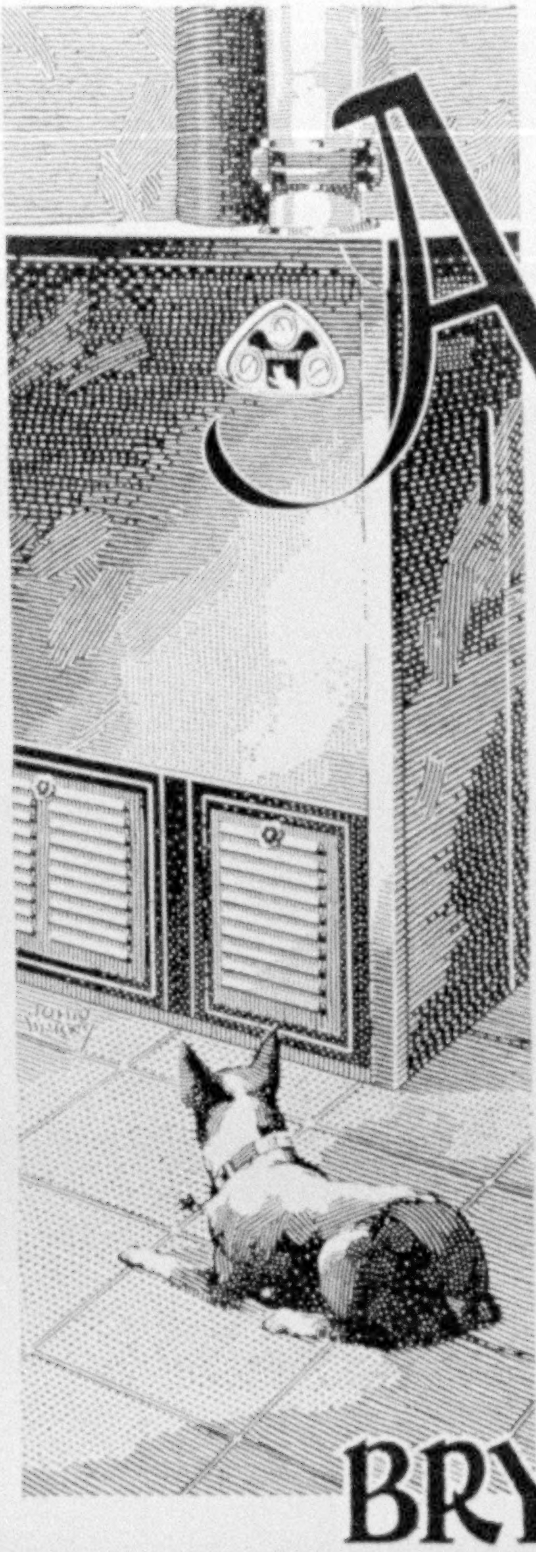
THE WATCH OF RAILROAD ACCURACY
THE HAMILTON WATCH IS AN AMERICAN WATCH

THIS QUIET ASSURANCE OF QUALITY SPEAKS ELOQUENTLY TO PEOPLE OF TASTE

To step from your library or drawing-room into Cadillac or La Salle involves no change in the general environment . . . There is no stinting or skimping or saving in the design and adornment of Cadillac-La Salle interiors, because the lavish volume awarded them by thousands of particular people renders that process unnecessary . . . It is the Cadillac Motor Car Company's whole purpose to see to it that you merely exchange the comforts and luxuries of your home for the comforts and luxuries of the finest possible motoring . . . De luxe Fisher and Fleetwood coachwork render Cadillac and La Salle the finest and smartest cars on the streets of the world . . . CADILLAC MOTOR CAR COMPANY, Division of General Motors, Detroit, Michigan; Oshawa, Canada.



CADILLAC · LA SALLE



Automatic Heating

WITH ALL THE EXPERIMENTING

Completed

A TRAINED mechanical engineer may be qualified to predict how dependably any particular automatic heating system will operate if installed in his home. Perhaps such a man can safely invest in a new device recently put on the market. For the rest of us—who are neither engineers nor mechanics—it is far wiser to install a plant which years of trouble-free operation have proved *completely past the questionable experimental period* —a plant which has demonstrated that mechanical knowledge will not be needed by our families in order to get ample and *uninterrupted* heat.

Bryant Automatic Gas Boilers and Furnaces have met the acid test of service for twenty years.

A Bryant has no complicated revolving mechanisms to get out of kilter or wear out; it is as noiseless as your kitchen stove, as clean in the basement as it is in the picture; and so truly automatic that it "orders its own fuel." Many a Bryant user makes only two trips to his furnace a year, one in the fall to light it and one in the spring to turn it off.

Before you decide on *any* automatic heating system it is only sound foresight to get the complete Bryant story. Simply phone your local Bryant office, ask your gas company or write to us at Cleveland.

BRYANT GAS HEATING

As clean in the basement as it is in the picture—*and no dirt-distributing fuel bin or storage tank "around the corner".*

With Bryant Gas Heating there is only the boiler or furnace, a pipe joining it to the gas main, the necessary piping, and a thermostatic control connected to an 8-day clock on a floor above—nothing else. Not a cubic inch of storage space is required by it.

-lets your Pup be your Furnace Man

THE BRYANT HEATER & MANUFACTURING COMPANY
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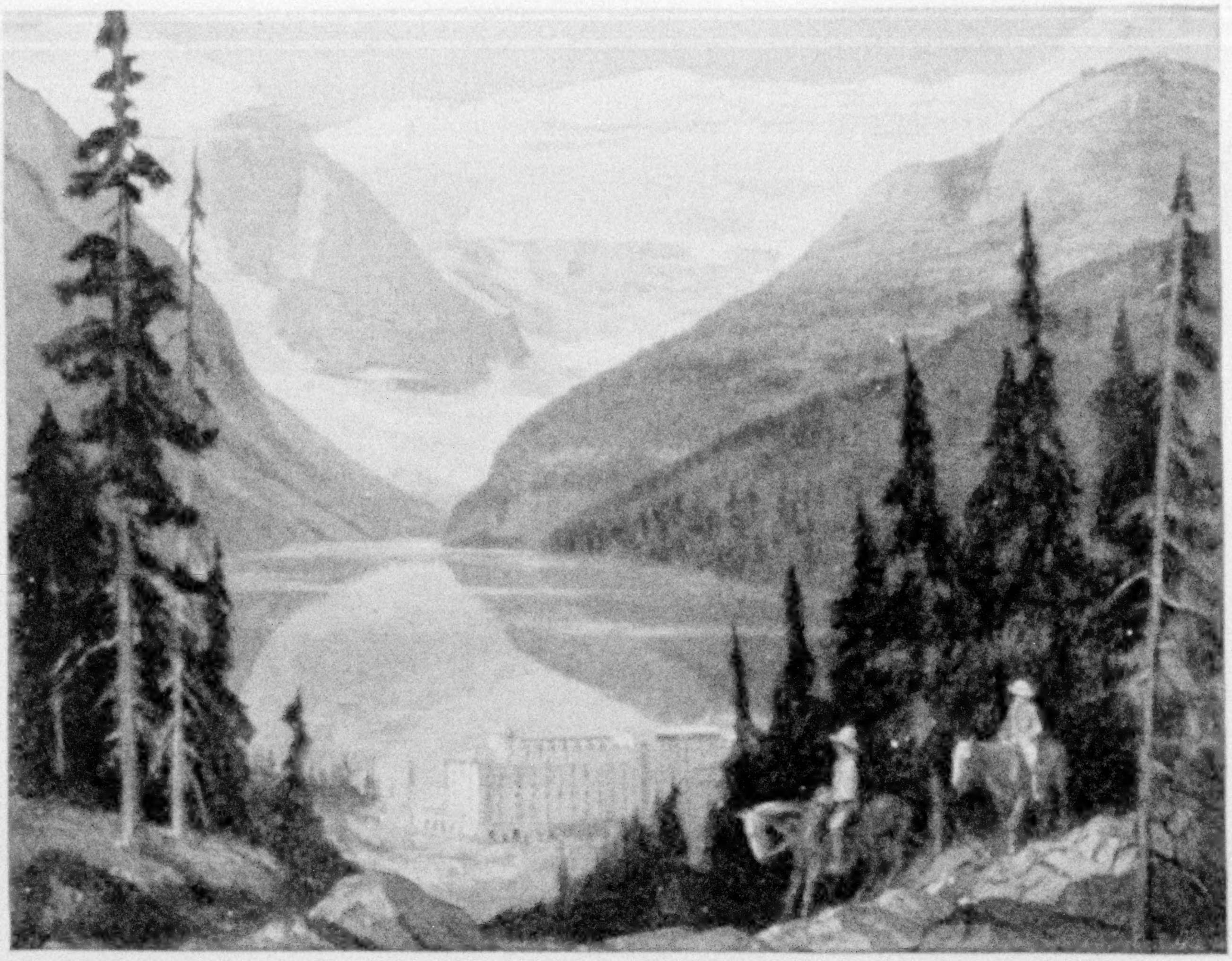
LAKE LOUISE...



Under the lee of Mount Temple you drop from the transcontinental into the spruce-scented silence of the snowpeaks. The car sweeps you up the valley to Chateau Lake Louise. Not London, not Paris, could surpass its lounge in beauty, its cuisine in skill. You look out upon one of the great views of the world...a jewel lake, now moss-agate, again turquoise-blue...a living glacier hung like a backdrop of eternity at the end...a ring of 9,000-foot Alps cradling the whole...fields of golden poppies growing almost up to the glacier's edge. You swim, you play tennis, you ride, you motor...hardy mountaineers, roped to Swiss guides, cross Abbot's Pass, and sleep in a stone hut among the eternal snows...it is a place of enchantment, "last, loneliest, loveliest, exquisite, apart." Connoisseurs in living keep Chateau Lake Louise busy all through the mountain summer...we warn you, make your reservations now!

An easy motor run from Lake Louise lies Banff Springs Hotel, place of contrasts... dude ranches with cowboys and marquises; golf on a new 18 and Indian caddies; Stoney Indians in war-bonnets at the Indian days in July, and Scotch bagpipes at the Highland gathering in September. An amazing place...the worn word *wonderful* doesn't begin to do it justice.

Information from Chateau Lake Louise, Lake Louise, Alberta, Canada; Banff Springs Hotel, Banff Springs, Alberta, Canada; or any Canadian Pacific Office: New York, 344 Madison Ave.... Chicago, 71 E. Jackson Blvd.... Montreal, 201 St. James St., West...30 other cities in U. S. and Canada.

Canadian Pacific...

World's Greatest Travel System..EMPRESS LINERS TO EUROPE AND ORIENT..CRUISES..TRANS-CANADA LIMITED..BANFF..CHATEAU FRONTENAC

To men nearing 40 with nothing *definite* in sight

HENRY FORD once said, "I think that much of the advice given to young men about saving money is wrong. I never saved a cent until I was 40 years old. I invested in myself—in study, in mastering my tools, in preparation. Many a man who is putting a few dollars a week into the bank would do much better to put it into himself."

Mr. Ford had nothing at 40—except more knowledge than his competitors. At 50 he was one of the richest men in the world.

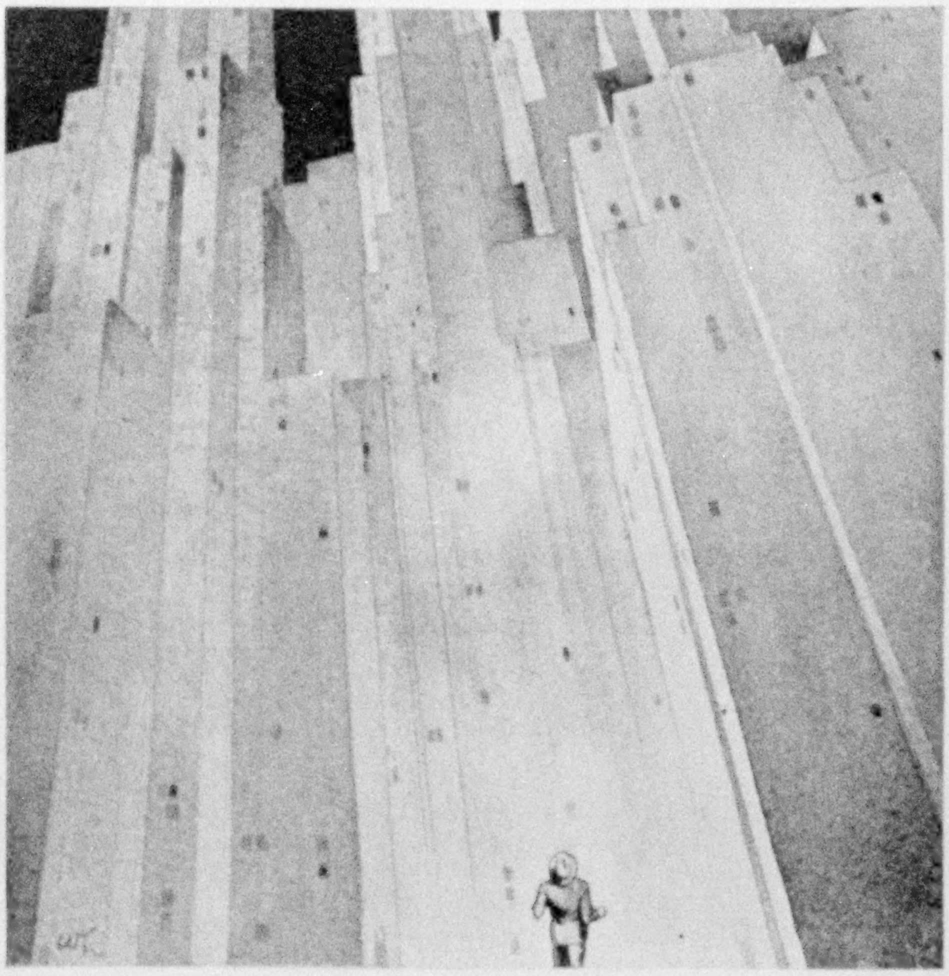
The men who make their money after 40 are those who have learned to do business quicker, with a surer touch, a sounder judgment. A large percentage of these men have, at some time, written their names on the lists of the Alexander Hamilton Institute.

Does this mean that they have read through completely the great business library of Institute texts? Does it mean that they have followed every lecture? Probably not.

What it means is this. A man says to himself:

1. "If I can get one really good new idea a month I shall have twelve advantages a year over my competitors."

2. Or, "These Institute volumes are the boiled-down essence of thousands of volumes. By giving me a quick answer to problems they will help me to move faster than my competitors."



3. Or, "Until now I have relied mostly on my youth and energy. From now on I must rely more on my judgment. I can enroll myself in a partnership with the Institute for a cost of a few cents a day."

With men who are approaching 40, and whose minds are working along these lines, the officers of the Institute would like to engage in correspondence. Perhaps the best way to begin is to clip the coupon and read the stimulating little book which it will bring. But if you prefer to write more at length, giving your personal problem in detail, your letter will receive the personal and confidential attention of the executive vice-president.

Forty is a turning-point. Either a man feels himself in a blind alley and gets discouraged, or he gets his second wind. He finds that it is possible—by a very easy investment of time and money—to equip himself to do more business, quicker business and sounder business than his competitors. Such men, like Henry Ford, make their fortunes in the forties.

Our files contain the names of hundreds of such men. We invite you to let us write *you* more fully.

Announcing Three New Management Courses

The rapid developments in modern business have brought increasing demands for an extension of Institute service.

To meet this demand the Institute now offers three new Management Courses in addition to its regular Modern Business Course and Service. These are a Course and Service in:

1—Marketing Management
2—Production Management
3—Finance Management

These new Courses are of particular interest to younger executives who want definite training in the management of the particular departments of business in which they are now engaged.

The details of this interesting development in business training are included in the booklet which the coupon will bring you.

ALEXANDER HAMILTON INSTITUTE

Executive Training for Business Men

Modern Business

To the Alexander Hamilton Institute, 832 Astor Place, New York City.
(In Canada address Alexander Hamilton Institute, Ltd., C. P. R. Building, Toronto.)

Send me the latest edition of "Forging Ahead in Business," which includes a description of the new Management Courses.

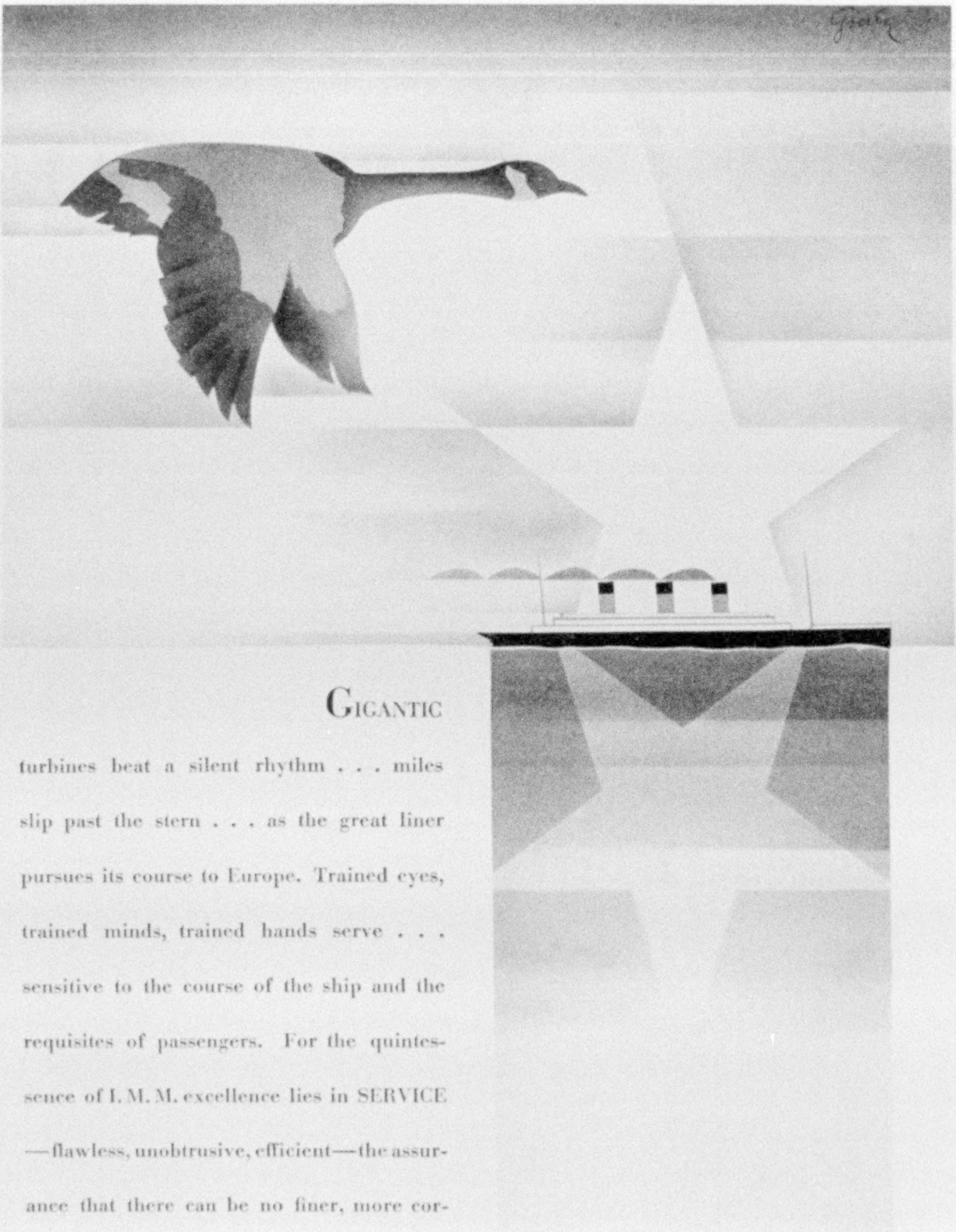
NAME ....

BUSINESS ADDRESS ....

....

BUSINESS POSITION ....

SWIFT TO THE GOAL



GIGANTIC turbines beat a silent rhythm . . . miles slip past the stern . . . as the great liner pursues its course to Europe. Trained eyes, trained minds, trained hands serve . . . sensitive to the course of the ship and the requisites of passengers. For the quintessence of I. M. M. excellence lies in SERVICE—flawless, unobtrusive, efficient—the assurance that there can be no finer, more correct way to Europe than by *White Star, Red Star or Atlantic Transport Lines.*

IMM

WHITE STAR LINE

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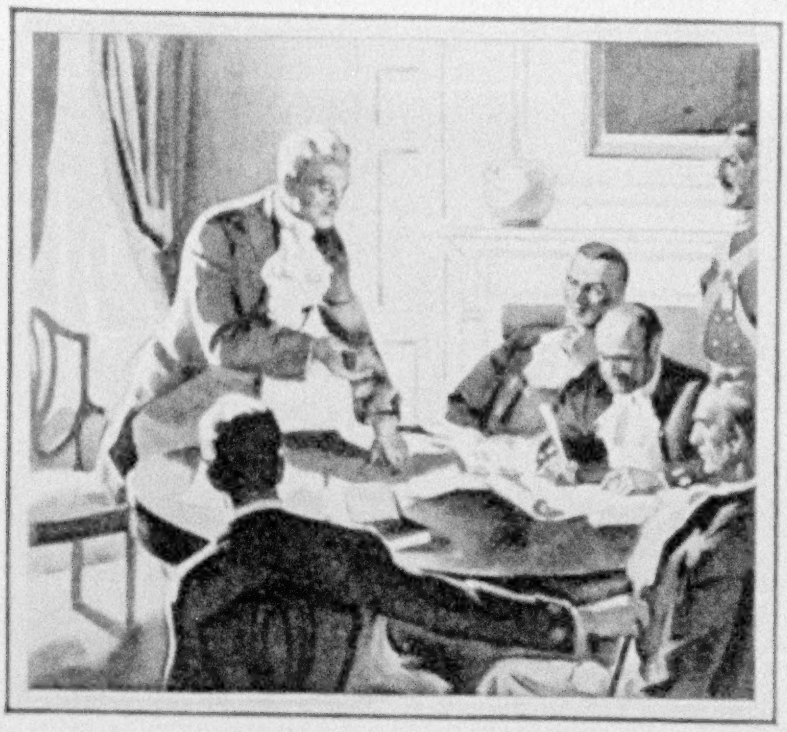
INTERNATIONAL MERCANTILE MARINE COMPANY

NO. 1 BROADWAY, NEW YORK, OUR OFFICES ELSEWHERE OR ANY AUTHORIZED AGENT

PACKARD



James Monroe, in his famous doctrine, formulated America's lasting policy of independent action and freedom from outside interference

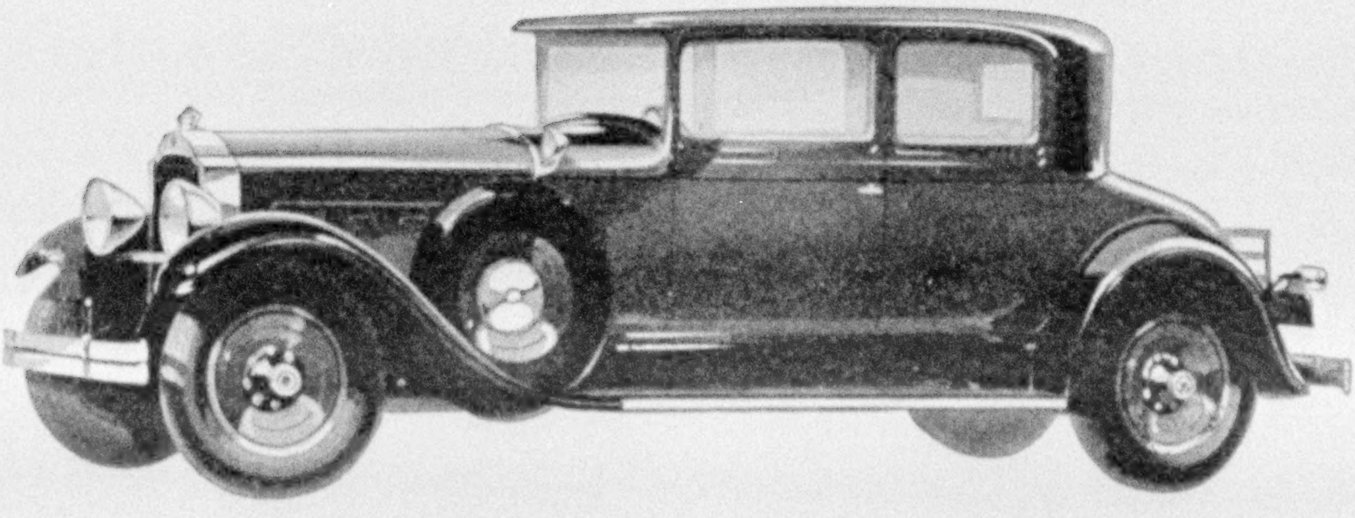
From its inception the Packard company has been independent—free to follow its own policies in seeking its chosen destiny.

In 30 years there have been no entangling alliances—there has been no interference from outside influence, no change of purpose. And Packard's world-supremacy is the result.

Packard has achieved for its product an outstanding and unchallenged leadership in the fine car field. This has been its sole aim. The beauty and originality of Packard design, the superiority of Packard engineering, the superb performance of Packard cars could only be achieved through such singleness of purpose.

That Packard independence of policy and action will continue, that Packard has the means and the intention to remain supreme, is assured by its chief executive: "We have made our own way from the beginning. We have created a position for ourselves and a reputation that is distinctive and unique. We do not intend to surrender either."

ASK THE MAN WHO OWNS ONE



Mi Choice

Mother's Day
/ *Sunday May 12th* \

Mother's eyes will sparkle with pride in your discriminating good taste if you send her the Gift of Gifts... The famous Mi Choice package. The dainty package... the smooth chocolate coatings... the surprise fillings ... each proves the perfection of the whole.

Your dealer has the famous Mi Choice Package in one, two, three and five pound sizes. If not, send the coupon and $1.50 for the one pound Mi Choice or 25c for an attractive Miniature Sample Package packed with pieces that have made Mi Choice world-famous.

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Makers of fine chocolates since 1876

NEW YORK DETROIT MILWAUKEE LOS ANGELES SAN FRANCISCO

Bunte
WORLD FAMOUS
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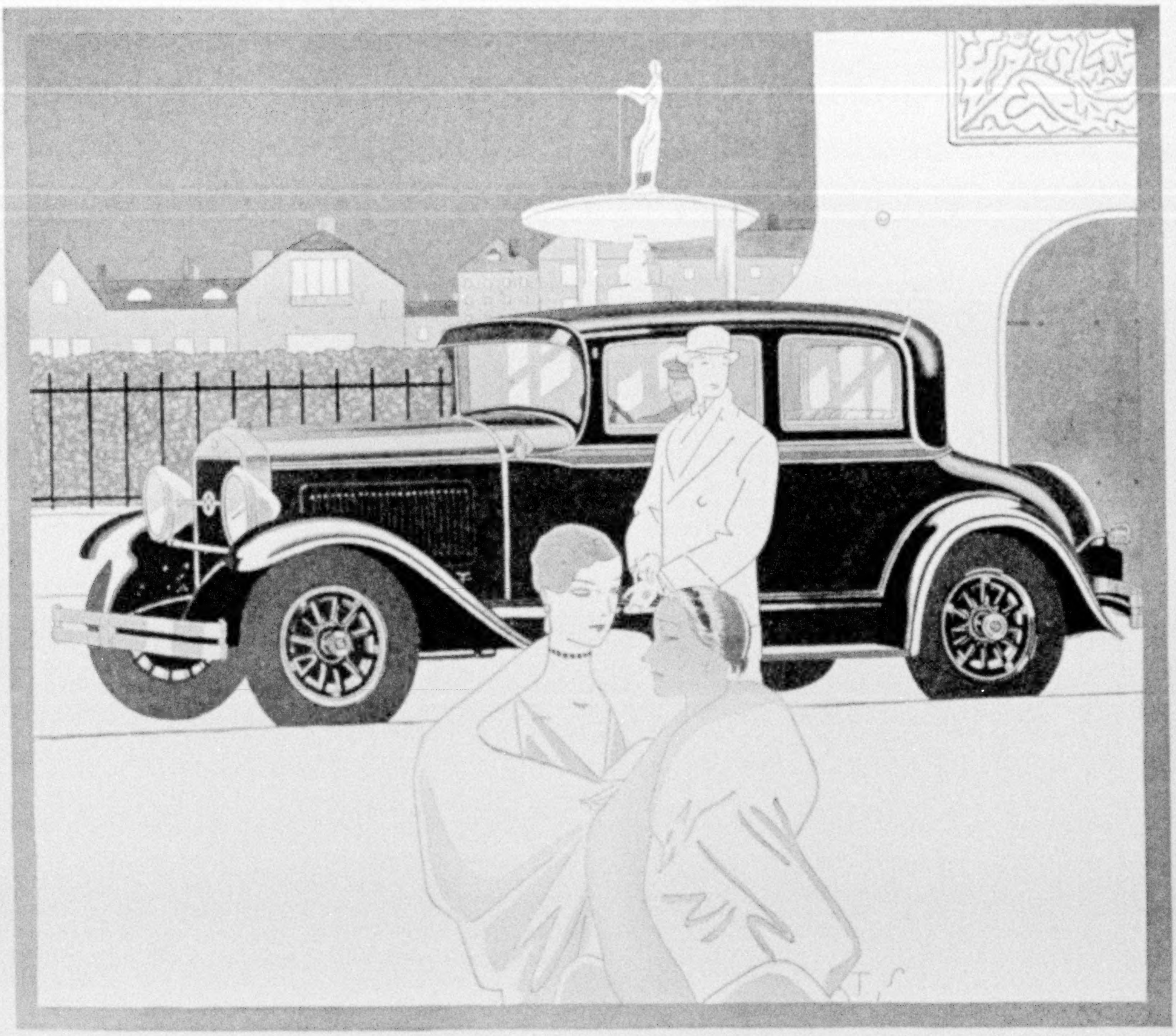
☐ I enclose $1.50 for a one pound Mi Choice package.

☐ I enclose 25c for the miniature Mi Choice sample package.

Name..............................

Address..................*City*..............

Dealer's Name.........................



The Commander Victoria for Four—with six-cylinder motor, $1375; with straight-eight motor, $1525. Prices at the factory—bumpers and spare tire extra.

THE spirit of swift and tireless motion was never so gracefully expressed as in today's Champion Studebakers. Never had coachcraft such motor car performance to inspire it, for Studebaker holds *every* official stock car record for endurance and speed. Sinewy endurance—silken smoothness of power-flow—velvet travel-ease—all are strikingly apparent in the poised and eager beauty of these smart, modern motor cars. They are Champions—these great Studebaker Eights and Sixes—and their looks reveal it. Their behaviour proves it. And Studebaker One-Profit prices, more than ever before, set these thoroughbred qualities into still stronger relief.

STUDEBAKER

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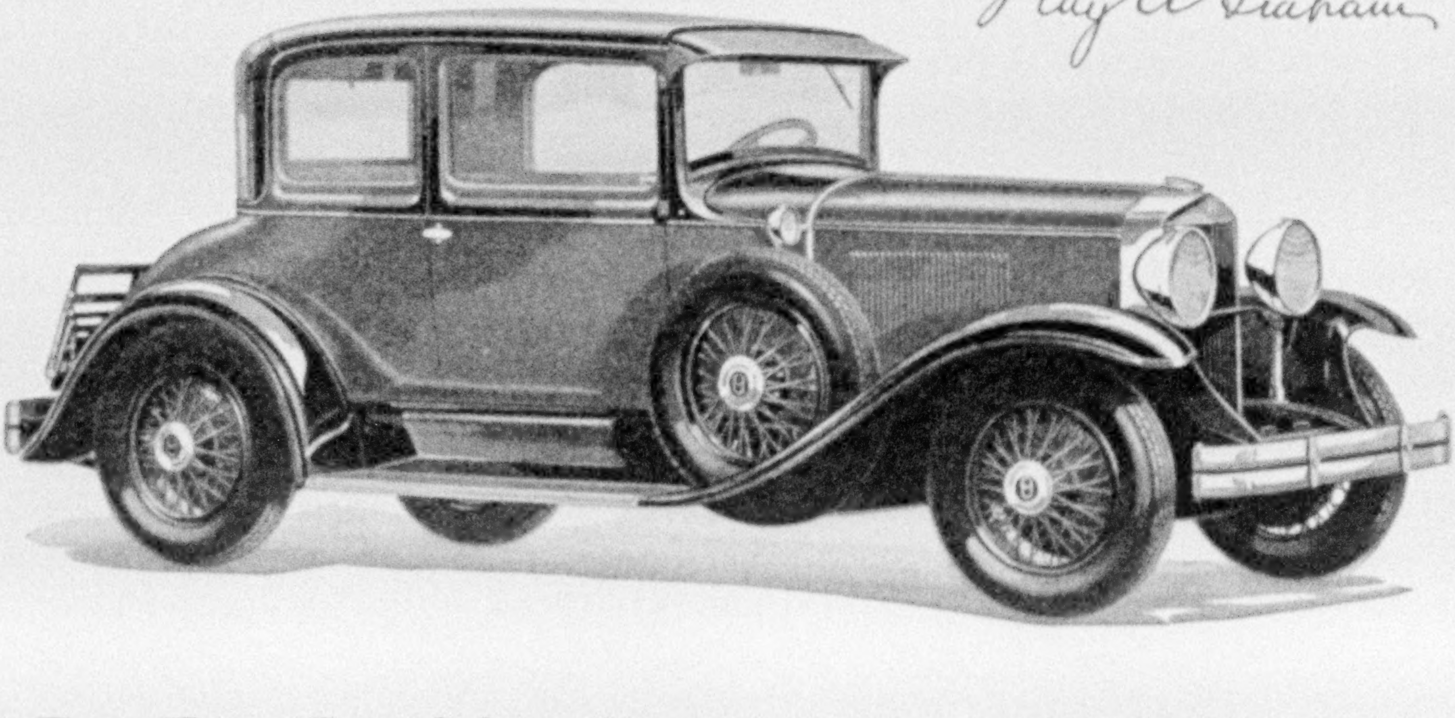
The *New*
Thrill in Motoring

Four Speeds Forward
Standard Gear Shift

OWNERS say that the only new motoring thrill they have enjoyed in recent years is the distinguished performance of the Graham-Paige four speed transmission, with its *two* high speeds and *standard* gear shift. The smoothness and swiftness of *fourth*, and the rapid acceleration of *third*, can only be appreciated by personal experience. There is nothing new to learn—you start in second; first is instantly available, but seldom used. We invite *you* to enjoy a demonstration of this new thrill in motoring.

Joseph B. Graham
Robert C. Graham
Ray A Graham

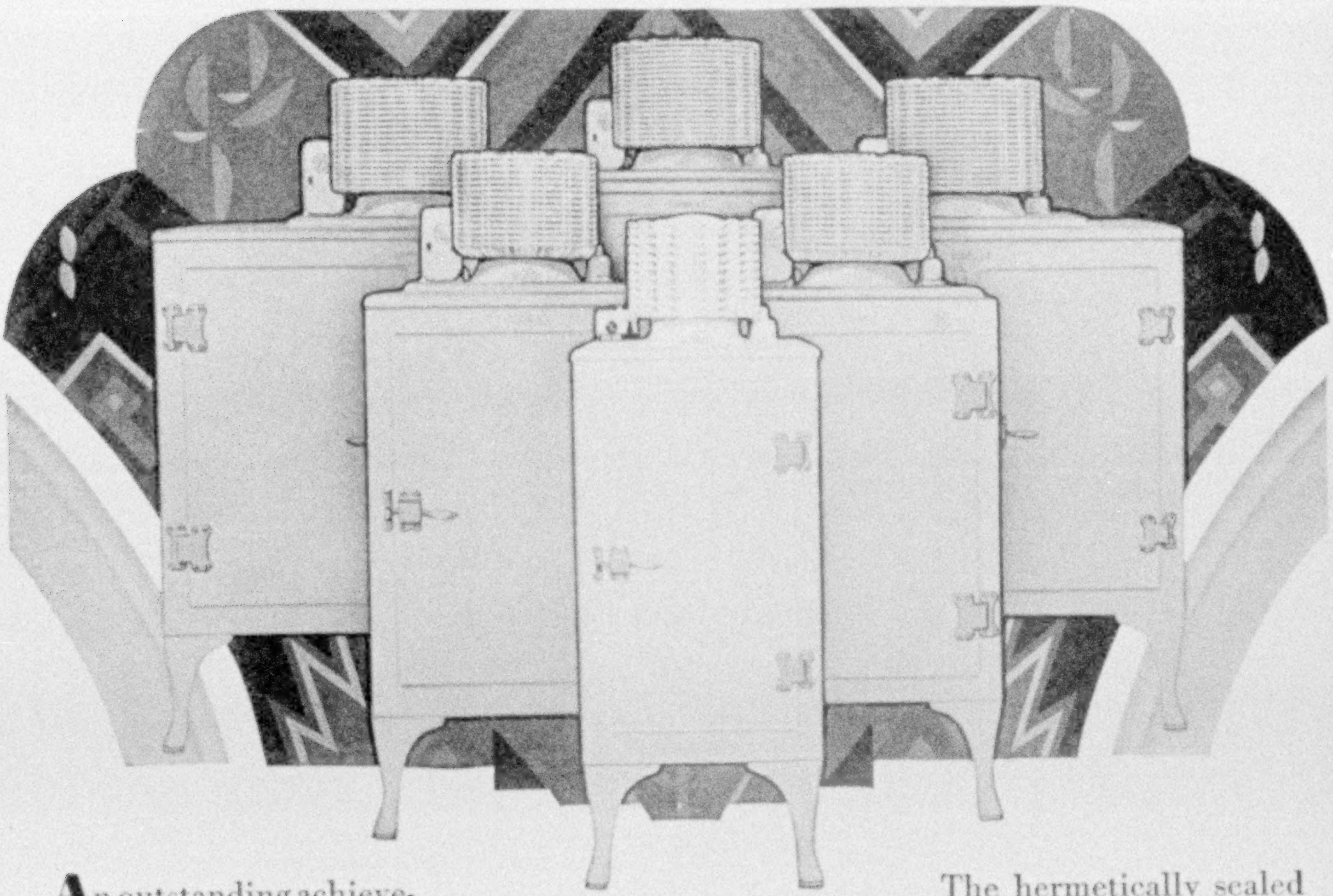
Five chassis — sixes and eights — prices ranging from $885 to $2495. Car illustrated is Model 621, six cylinder, four passenger Coupe, $1595 (special equipment extra). All prices at factory.



GRAHAM-PAIGE

Now presenting six
ALL-STEEL MODELS

INTRODUCING STILL HIGHER STANDARDS OF EFFICIENCY



**CAN'T WARP
STRONGER, STURDIER
COST LESS TO OPERATE**

An outstanding achievement—the first all-steel refrigerators. Revolutionary designs—new low prices. The greatest values ever offered by General Electric.

This all-steel refrigerator development is another contribution to better living—made by the engineers and scientists of the General Electric Research Laboratories.

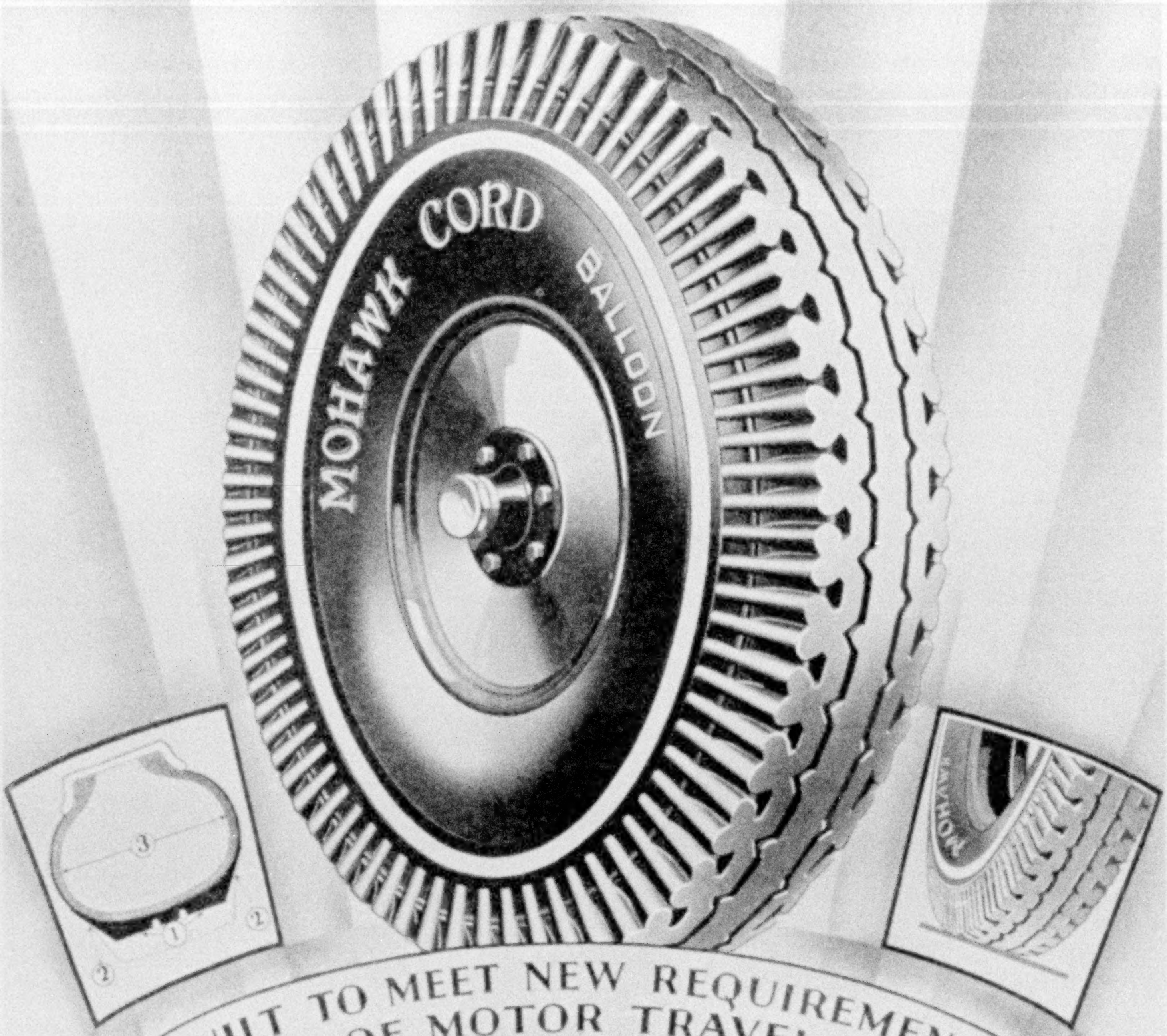
Now you can buy a refrigerator with a cabinet built like a safe. One with doors that will always fit perfectly. One which will operate with the least amount of current. One which shuts out heat.

The hermetically sealed mechanism remains just as it has always been . . . sealed away from dust and difficulties, permanently oiled, quiet, unseen, untouched . . . one of the miracles of modern science. This mechanism and the all-steel cabinets combine to make what we believe to be the most perfect refrigerator ever built.

Because of mass production economies prices now start at only $215, at the factory. There are six sizes. Drop a card for a descriptive booklet to Section R-5, Electric Refrigeration Dept., General Electric Co., Hanna Building, Cleveland, Ohio.

GENERAL ELECTRIC

ALL-STEEL REFRIGERATOR



BUILT TO MEET NEW REQUIREMENTS OF MOTOR TRAVEL

Amazing New Riding and Steering Ease
Vastly Improved Traction—Speed with Safety
Attention-Arresting New Beauty
Quicker Get-Away—Surer Stops

Mohawk has perfected an advanced new principle in Balloon Tire Design . . . the easy riding, high shouldered, broad, flat-contoured tread, supported by shock absorbing and distributing columns . . . which brings you all these coveted advantages. ¶ This boldly original, revolutionary improvement is available only in the distinguished, gold-striped Mohawk Flat Tread Special Balloon which has been tested and proved for two years. ¶ The lower air pressure required—five pounds less than that recommended for any other tire—immensely increases traction and riding ease.

Featured by quality tire dealers everywhere

THE MOHAWK RUBBER COMPANY, Akron, Ohio

Note in the above diagram how the long, powerful supports (2) at the edges of the tread distribute the flexing up into the side-walls (3) eliminating possibility of ply and tread separation which have been so destructive of previous types of flat and semi-flat balloons.

In compact, convenient form Mohawk-Hobbs Guides give complete, accurate, unbiased touring information on all long distance travel routes. Price 20c at all Mohawk Dealers.

MOHAWK
HOBBS
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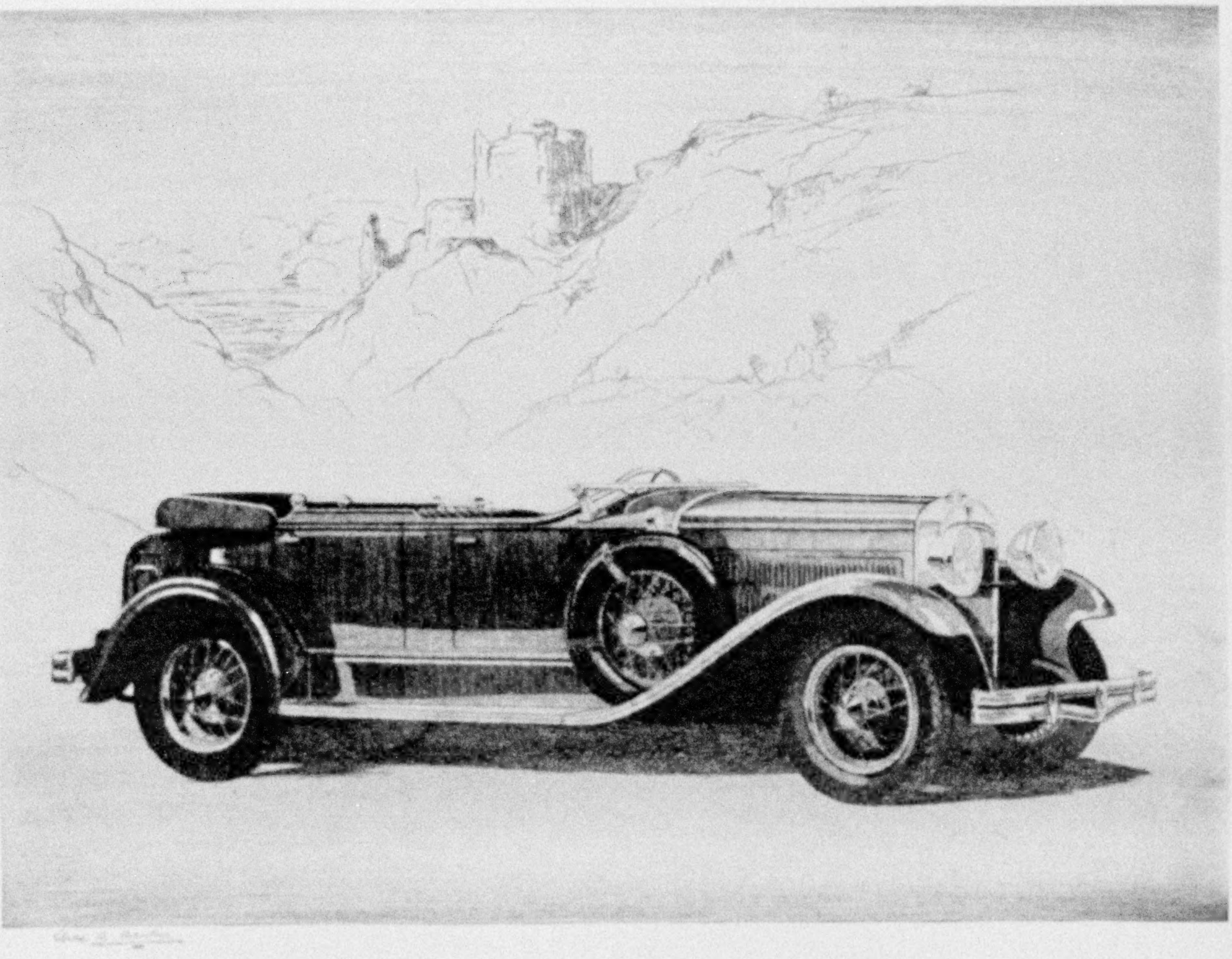
WHEREVER
YOU WANT
TO TOUR

MOHAWKS
GO Farther!

FOR SIXTEEN YEARS MAKERS OF FINE TIRES

The Greater
HUDSON

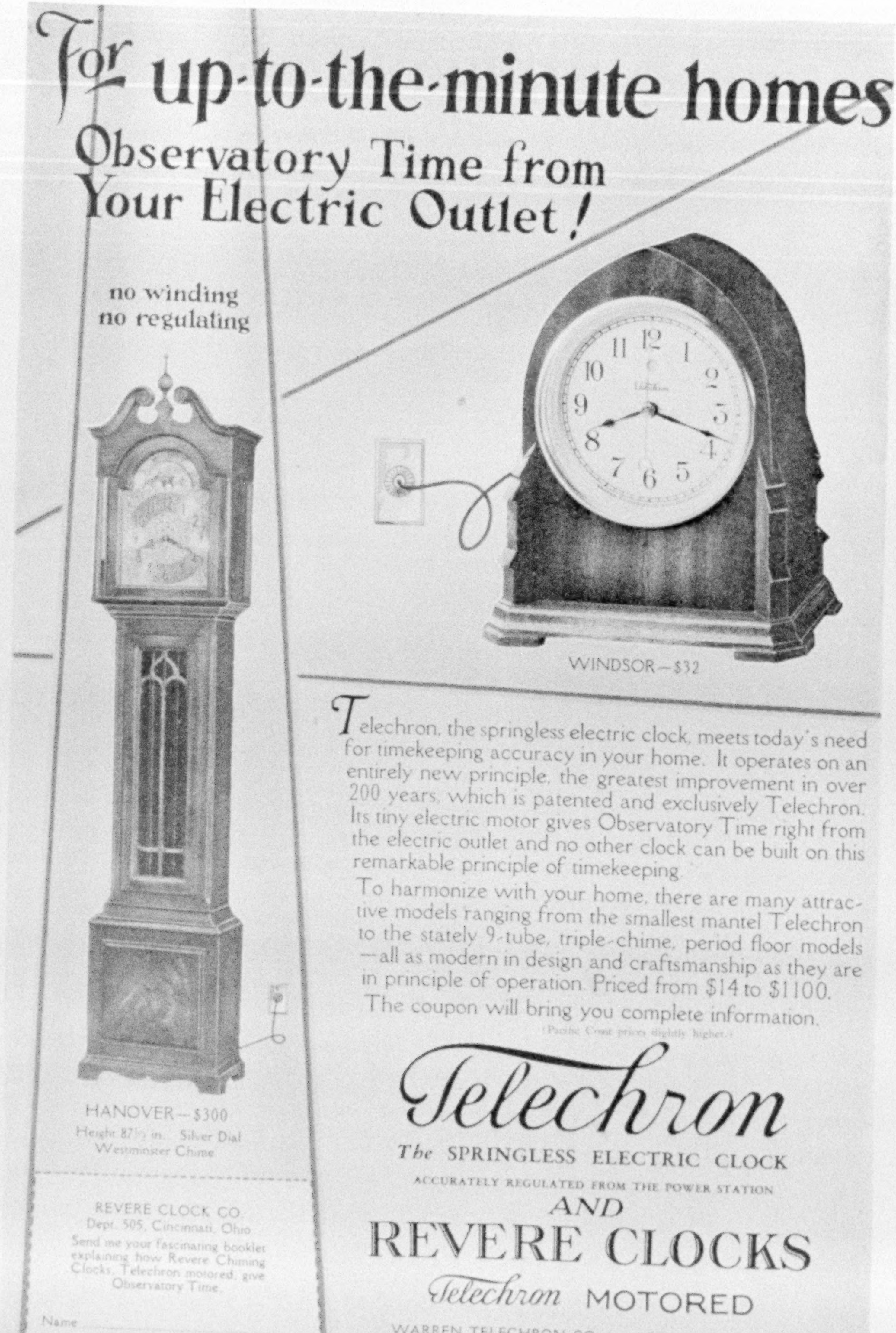
A leadership in style as distinctive as its performance supremacy



THE new Hudson is called the Greater Hudson. Because every suggestion, advancement and experience of the world's largest 6-cylinder ownership is incorporated in its 64 outstanding improvements.

So these are cars we are proud to present to Super-Six owners. They express their love of beauty, their ideals of comfort and performance, and their well-understood expectancy and appreciation of value.

HUDSON MOTOR CAR COMPANY, Detroit, Michigan



For up-to-the-minute homes

Observatory Time from Your Electric Outlet!

no winding
no regulating

WINDSOR—$32

Telechron, the springless electric clock, meets today's need for timekeeping accuracy in your home. It operates on an entirely new principle, the greatest improvement in over 200 years, which is patented and exclusively Telechron. Its tiny electric motor gives Observatory Time right from the electric outlet and no other clock can be built on this remarkable principle of timekeeping.

To harmonize with your home, there are many attractive models ranging from the smallest mantel Telechron to the stately 9-tube, triple-chime, period floor models—all as modern in design and craftsmanship as they are in principle of operation. Priced from $14 to $1100. The coupon will bring you complete information.

(Pacific Coast prices slightly higher.)

HANOVER—$300
Height 87½ in. Silver Dial
Westminster Chime

REVERE CLOCK CO.
Dept. 505, Cincinnati, Ohio

Send me your fascinating booklet explaining how Revere Chiming Clocks, Telechron motored, give Observatory Time.

Name ____________________

Address ____________________

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The SPRINGLESS ELECTRIC CLOCK

ACCURATELY REGULATED FROM THE POWER STATION

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REVERE CLOCKS

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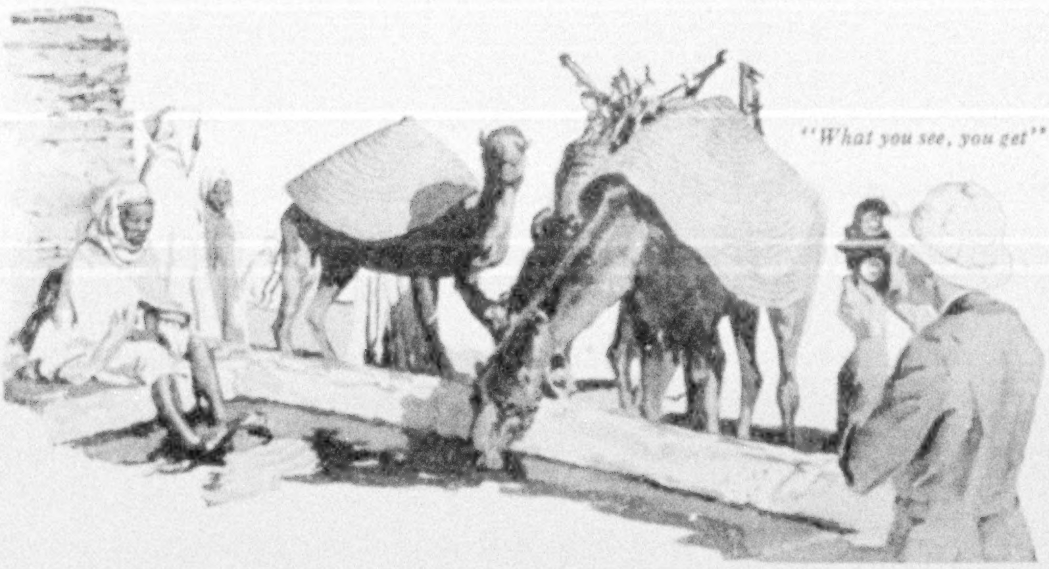

"What you see, you get"

Tell Your Travel Story with FILMO MOVIES

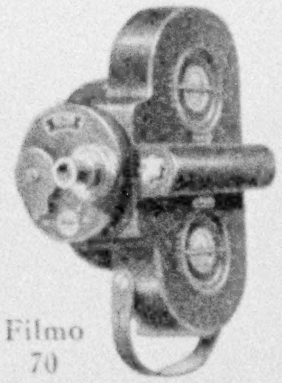
Today, the "travel wise" are using Filmo movie cameras in all the storied corners of the world. It's easier to get lasting enjoyment from the sights you are seeing, with Filmo. Living records, made in this vivid, modern way will always charm your friends and revive for you memories of the beauty, strangeness and quaint customs of far off lands.

Bell & Howell Filmo movie cameras are easier to operate than still cameras. They give you clear, beautiful pictures, even under the adverse light conditions that so often spoil snapshots. Simply look through the viewfinder, press the button and "what you see, you get."

For nearly a quarter of a century Bell & Howell have supplied the professional movie cameras used in producing feature pictures for "first run" theaters the world over. Filmo movie cameras have the same unerring accuracy and watch-like precision of Bell & Howell professional studio cameras costing up to $5000.

For black and white pictures, Filmo cameras use Eastman Safety Film (16 mm.)—in the yellow box—both regular and panchromatic—obtainable at practically all dealers' handling cameras and supplies. Filmo cameras and Filmo Projectors are adaptable, under license from Eastman Kodak Company, for use of Eastman Kodacolor film for home movies in full color. Cost of film covers developing and return postpaid, within the country where processed, ready to show at home or anywhere.

Your travel preparations should include a Filmo demonstration. See the nearest Filmo dealer, or write for illustrated booklet—"What You See, You Get."

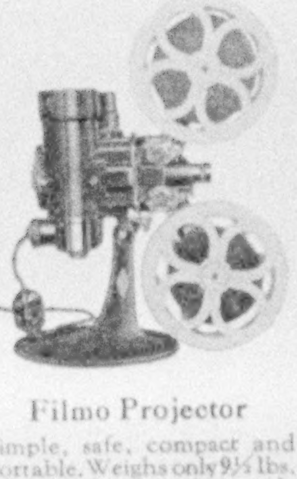


Filmo 70

The most flexible and highly perfected personal movie camera obtainable at any price. With carrying case, $180 and upward. Uses 100 ft. rolls (16mm.) film.

Filmo 75

The smallest 100 ft. (16 mm.) camera ever made. Weighs only 3½ lbs. and fits the pocket. Beautifully embossed and finished in walnut brown, ebony black or silver birch. $120, with carrying case.



Filmo Projector

Simple, safe, compact and portable. Weighs only 9¼ lbs. Projects pictures of a steady brilliance unequaled by any other 16mm. projector. With carrying case, $190 and up.

BELL & HOWELL

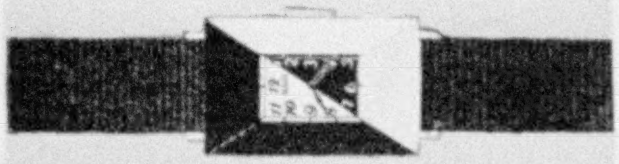
Filmo REGISTERED

Bell & Howell Co., Dept. E, 1817 Larchmont Ave., Chicago, Ill.
New York, Hollywood, London (B. & H. Co., Ltd.) • *Established 1907*

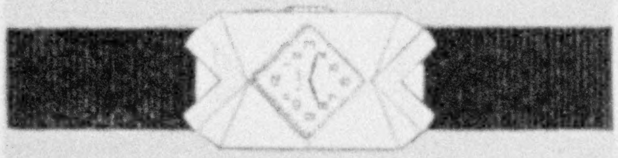
ON BEING A DIPLOMAT
AS DIPLOMA TIME APPROACHES

TWO ELGIN PARISIENNES

Designed in Paris by noted Stylists

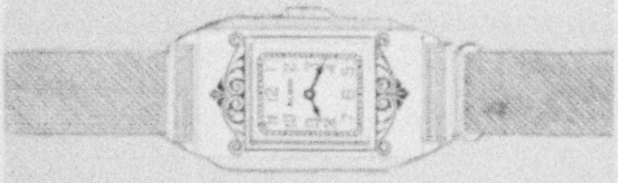


Lelong model, with black enamel . $35

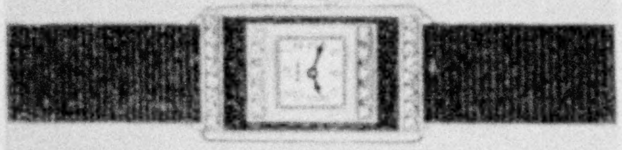


Another smart model by Lelong . $35

TWO NEW GRADUATION ELGINS

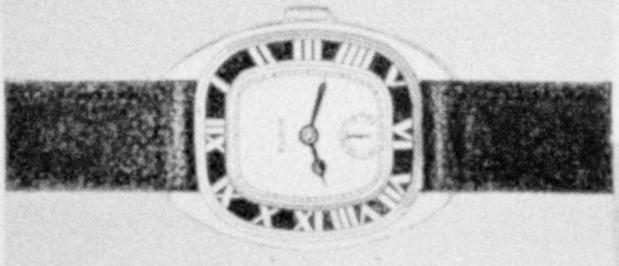


15 jewel movement. Mesh bracelet, $55

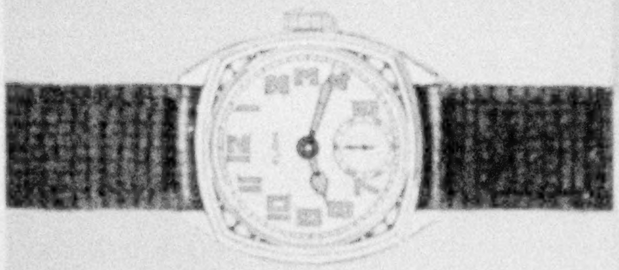


26 diamonds, 18 kt. white gold case, $250

THE ELGIN LEGIONNAIRE

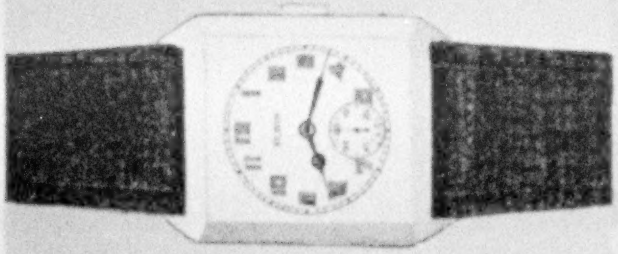


Numerals on *outside* of case . . . $24



One of Elgin's best timekeepers . . . $19

FROM THE "AMERICAN EFFICIENCY" SERIES



Firestone model. 17 jewels. Adjusted, $41

Published in the hope that an ELGIN WATCH commemorates your graduation

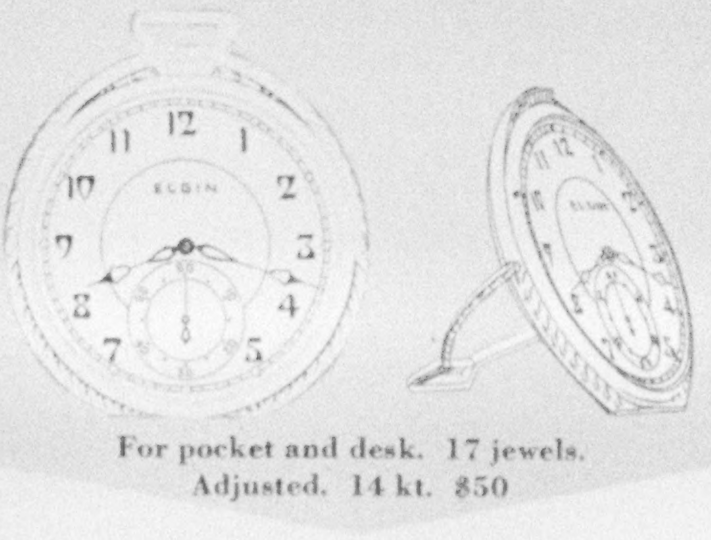
Naturally, you can't just march up to that mother or father of yours and say in so many words that you'd like an Elgin watch for graduation.

But would you mind our suggesting it?

That's what these pages are for . . . just to remind the busy race of parents of an obvious fact that might have otherwise escaped them. Now, of course, they might not see this display, there's always the chance of that. But, of course, you might see to it that they don't miss seeing it . . . That's where being a diplomat comes in.

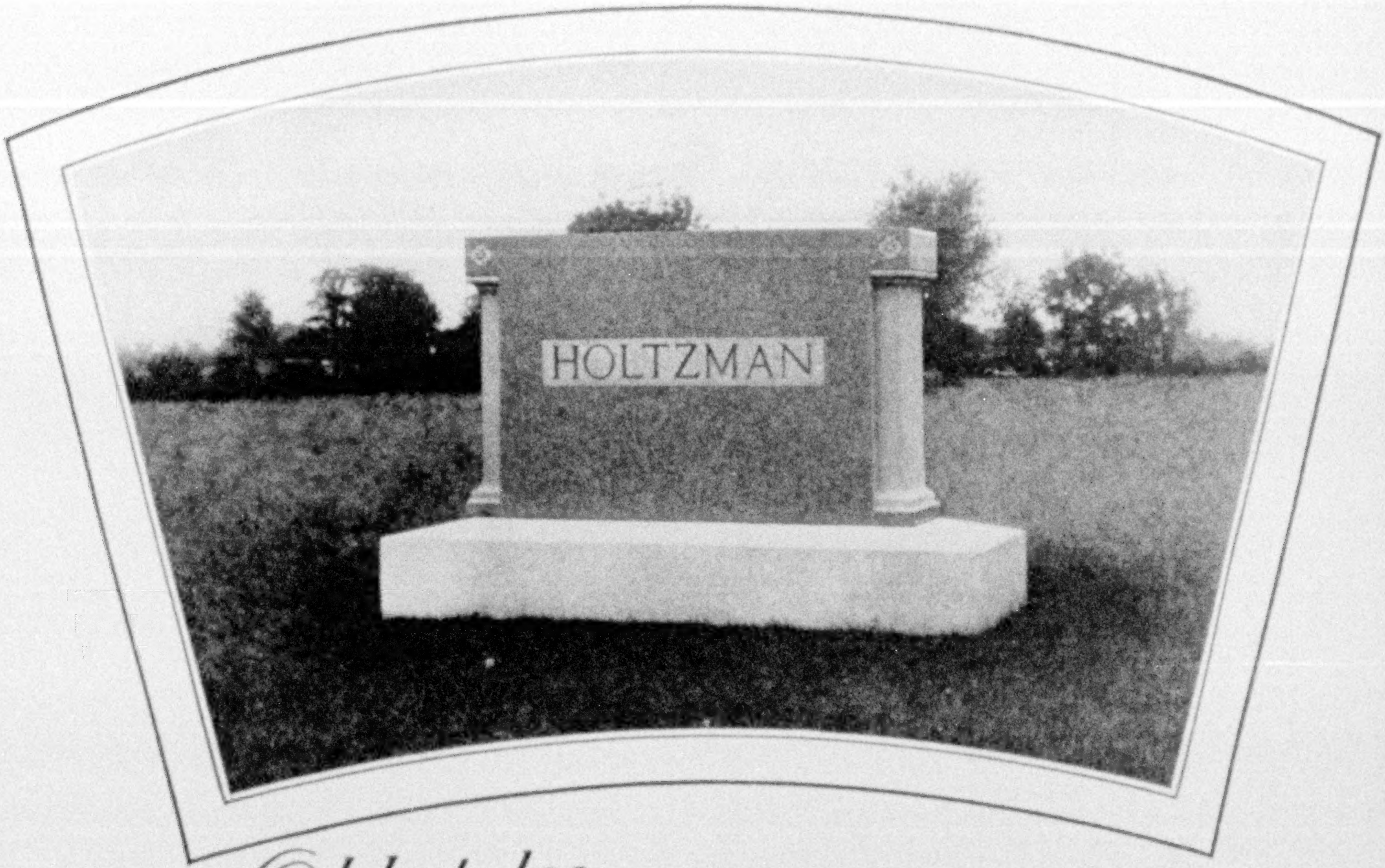
Somewhere in this array of watches is precisely the watch to carry the sentiment of your graduation day into the years to come. Near you is an Elgin jeweler ready with your graduation present. Prices range from $19 to $350.

ELGIN



For pocket and desk. 17 jewels.
Adjusted. 14 kt. $50

Elgin Watches Are American Made © Elgin, 1929 (Prices slightly higher in Canada)



Old styles and new . . The crinoline days of the hoop skirt, crisply starched shirtwaist and layers of petticoats are but memories of the past. The modern memorial, too, has taken on new dress. The heavily carved, ornately decorated monument has been superseded by a new type of memorial, simple in line and design in beautiful shaded effects. And no longer does one wait until death provides the urge to erect his memorial. Today one selects his lot and personally supervises the making of the memorial to perpetuate the family name.

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A free illustrated booklet—"*How to Choose A Memorial*" sent on request.

*Name*______________________________

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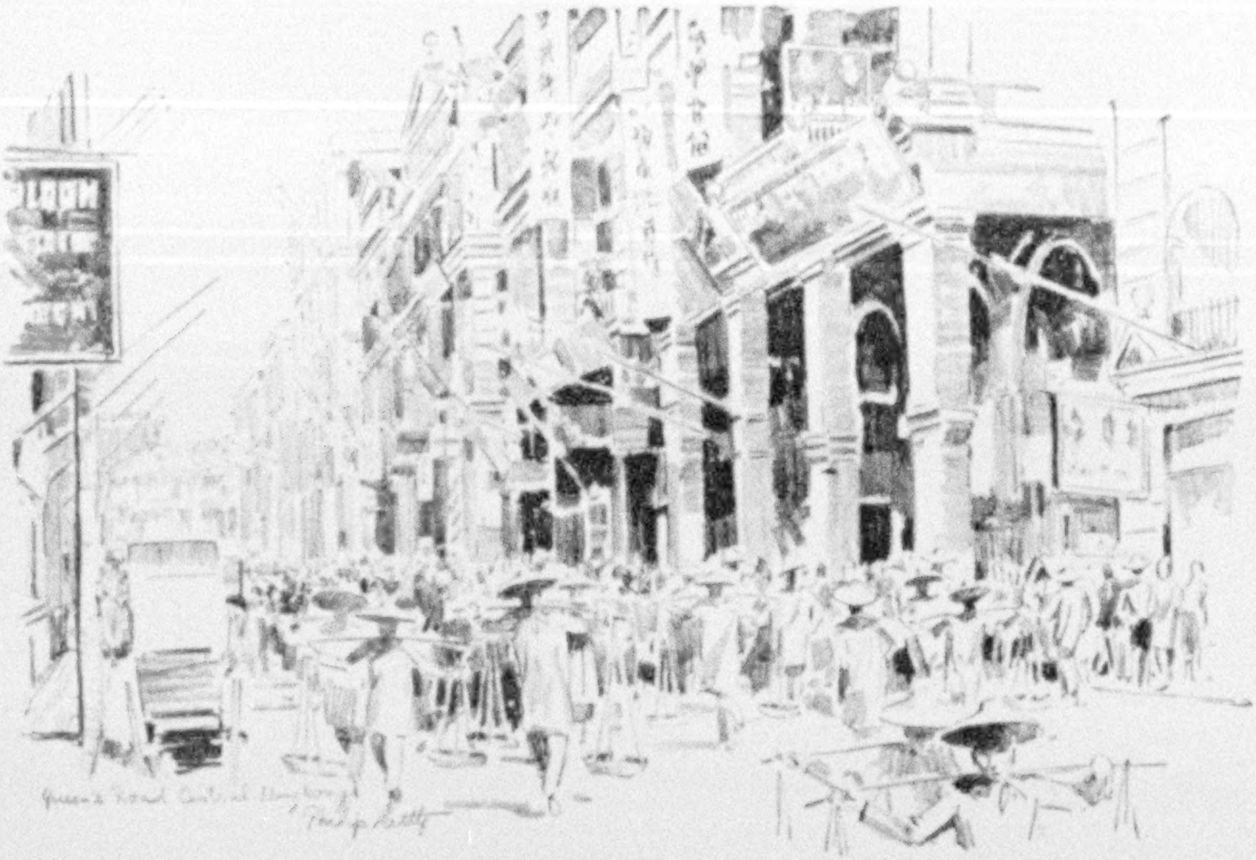
請乘總統輪船


Queen's Road Central Hong Kong
Philip Little

Visit southern China, too

on this "Go-as-you-please" world tour

"Southern CHINA, rice-growing, forested and watered. A land of rivers and canals, where millions have no other home, generation after generation, than a boat, half occupied by the ancestral family altar . . . Pagodas that were age mellowed when Charlemagne was crowned . . . Thousands of miles of meandering flagstone roads, three feet wide, along which goes an endless procession of jogging coolies . . .

Canton, its ancient, narrow, roofed streets cut across by the broad modern arteries ruthlessly gashed by Sun Yat Sen . . . Ivory carvers in open shops, where their marvelous handiwork may be bought for a song . . . Street after street of silk merchants, hole-in-the-wall factories contrasting with a ten-story Chinese department store . . . Fouchow, Amoy, Swatow, city after queer city along that southern coast . . . Hong Kong, of course, abounding in all the comforts and security of a British colony, yet basically Chinese still beneath the British veneer . . .

And perhaps most valuable of all the souvenirs of your stay in China will be the life-long realization that Chinese culture, even reduced to terms of mere courtesy, is only different from rather than inferior to our own, that many a custom we consider backward may be due to the fact that our own viewpoint is upside down . . . another step forward in that genuine understanding which is, after all, the chief goal and advantage of travel . . .

Harry A. Franck

World Traveler and Author of
"A Vagabond Journey Around the World"
"Wandering in Northern China"
"East of Siam"

Round the World you go just as you choose. You make your own schedule and see what you want to see. Two years are permitted for the complete trip and within that period you have all the advantages of a private cruise on your own yacht. Your fare, including meals and accommodations aboard ship, as low as $1250 Round the World.

Every week a palatial President Liner sails from Los Angeles and San Francisco for Honolulu, Japan, China, Manila and thence on fortnightly schedules to Malaya, Ceylon—with easy access to India—Egypt, Italy, France, New York and via Havana and Panama to California.

Every fortnight a similar Liner sails from Seattle for Japan, China, Manila and Round the World.

Magnificent Liners, they offer outside rooms with beds, not berths. Spacious decks. A swimming pool. Luxurious public rooms. A world-famous cuisine.

A similar service returning from the Orient to Seattle, San Francisco and Los Angeles.

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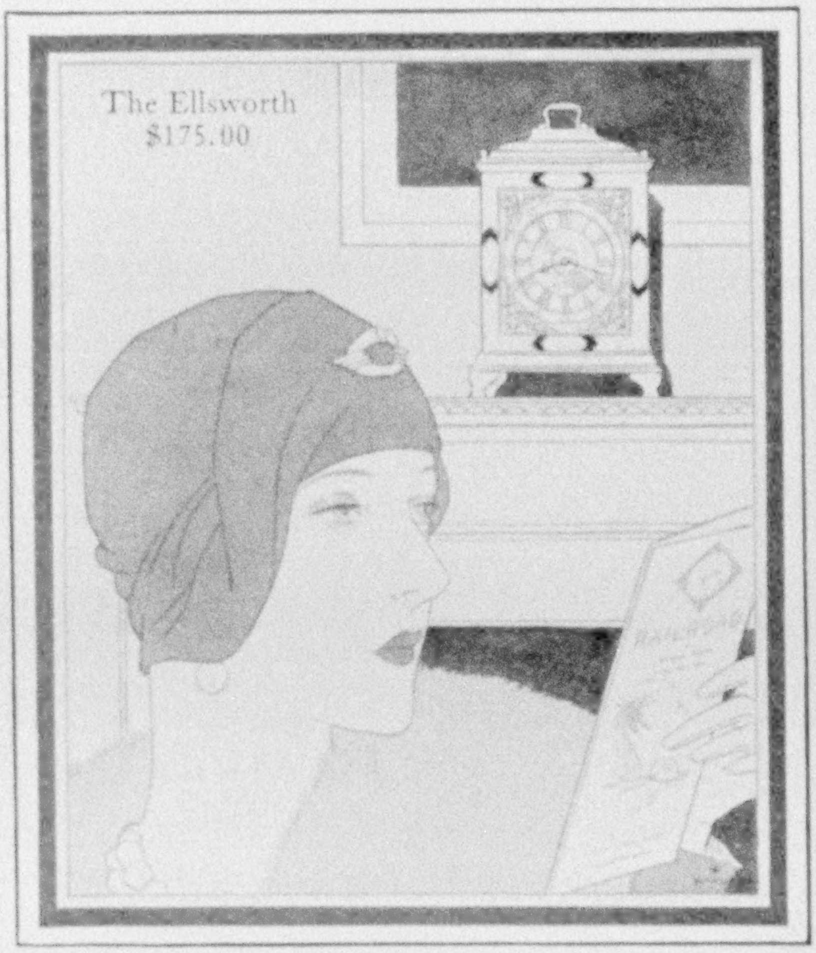
YOKOHAMA KOBE SHANGHAI
MANILA

Railroad time

for the home

...in 45 styles of electric clocks



The Ellsworth
$175.00

Think of it—railroad time for your home in a clock of captivating beauty!

Maybe you prefer an historic period model—or a masterpiece in bronze or marble—or a colorful creation in rich leather,—or a smart, graceful model in mahogany or walnut. And you can have it in a Sangamo . . . at prices from $25 to $400.

Unlike many electric clocks Sangamo is not dependent upon the electric current for its accuracy. A tiny motor—guaranteed for life—keeps the mainspring wound to the same tension at all times. The maintenance of this uniform spring tension in Sangamo produces accuracy undreamed of in old key-wind clocks.

Sangamo has no complicated electrical parts—no batteries. Current fluctuations do not affect it. In fact, it will run for many hours with the current off. It requires no leveling—no key winding.

In construction as well as in its timekeeping qualities, Sangamo can be compared only with the finest railroad watches. It has the finest of escapements—Illinois-Hamilton—with jewels for all important bearings. It has the precision cut gears and stainless steel staffs and pinions with mirror-like finish that you find in high grade watches.

At The Better Jewelry Stores

See this modern timepiece at your local jewelry store—in 45 fascinating styles and color designs. "Telling Time," an interesting book showing many famous old clocks as well as new styles, will be mailed free upon request.

Sangamo Electric Company, Springfield, Ill.

Manufacturers also of Sangamo Electric Meters—5,000,000 in service —Sangamo Radio Condensers and Transformers

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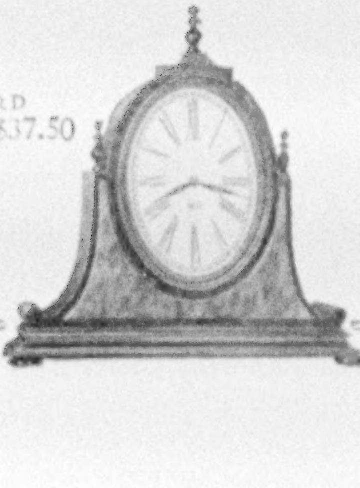
No. 4701—$37.50



SANGAMO

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Models priced at

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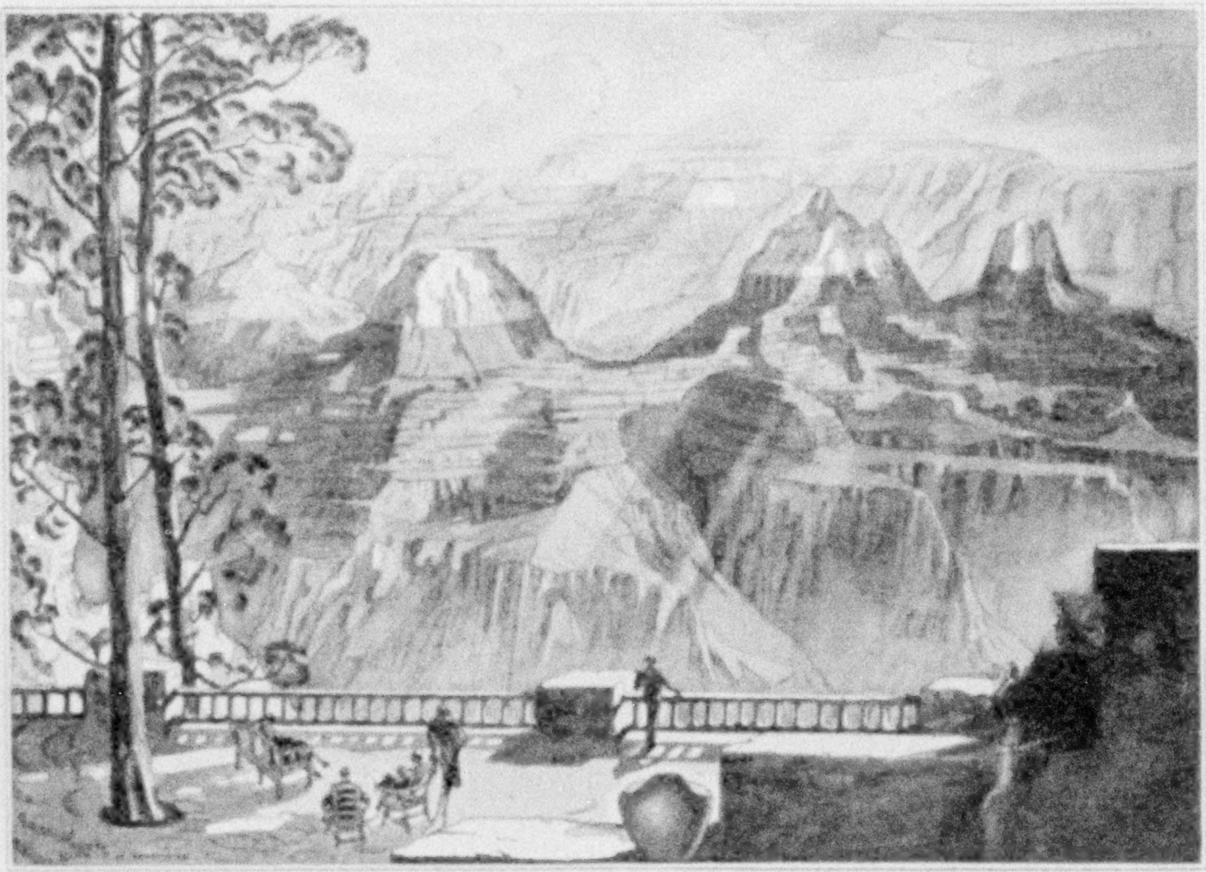
THE NEW WAY TO SEE GRAND CANYON NATIONAL PARK



COME linger on this sunlit brink of immensity

Imagine it! To lose yourself in the contemplation of these glorious heights and vast, mysterious depths, drenched with countless rainbows of color, changing subtly with the course of the sun! To sojourn in luxurious Grand Canyon Lodge overhanging its highest brink!

Now Union Pacific makes it possible. The new Grand Canyon Lodge, from which this view was sketched, clings to the very edge of famous Bright Angel Point! Here, as you dine, you will get an unparalleled view of this measureless chasm!

But Grand Canyon is only one attraction on the Union Pacific Utah-Arizona tour. You will travel in easy riding motor buses, to the prismatic labyrinths of Bryce Canyon and Zion National Parks and Cedar Breaks as well. It is a land of infinite variety. Beautiful Kaibab Forest palpitating with wild life; strange Mormon villages and forts, extinct volcanoes, ruins of incalculable age. Every morning the world is reborn for you.

You may go independently, or on an Escorted All-Expense Tour, with interesting people from the world over. The trip is exclusive with the Union Pacific, and takes only five days after leaving your Pullman in Cedar City, the gateway. Shorter tours to individual attractions. The low cost will astonish you. No other vacation gives so much for so little.

The season is from June 1 to October 1. Send the coupon at once for detailed information, together with richly illustrated booklets.

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Please send me complete information including cost, and booklet:
☐ Zion-Bryce Canyon-Grand Canyon National Parks ☐ Western Wonderlands (tells about *all* the West) ☐ Yellowstone ☐ Pacific Northwest and Alaska ☐ California ☐ Dude Ranches ☐ Hawaii ☐ Colorado ☐ Escorted All Expense Tours

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LOW SUMMER FARES TO ALL THE WEST *via*

Union Pacific

THE OVERLAND ROUTE

Everlasting Beauty
GUARDS THESE ROOF-TREES

Johns-Manville Asbestos Shingles mean Permanent Protection from Fire, Weather and Time

Small houses, too, may be beautiful and protected by the use of colorful roofs of Johns-Manville Asbestos Shingles.

* * *

This delightful home is located at Oak Road Beach, Cleveland, Ohio. Its roof of J-M Asbestos Shingles is beautiful and everlasting.

THIS beautiful home, roofed with Johns-Manville Rigid Asbestos Shingles, enjoys the beauty of a colorful roof which blends perfectly with its picturesque surroundings. It proves what every architect and builder knows — that upon the colorful beauty of the roof depends the character of your house. Velvety greens — autumn reds — mellow grays — there is a Johns-Manville roof to blend with every house design to meet every home-owner's desires.

And the colorful distinction of Johns-Manville Asbestos Shingles will last forever. Time does not touch them! Weather will not wear them out, nor penetrate their sturdy, thick protection. Fire cannot harm them. Roofing expense is ended for all time. You cannot afford to be without the lifetime of roofing beauty and protection found in Johns-Manville Shingles.

Look At Your Roof Today!

And for old homes as well as new! Thousands of houses are finding new beauty each year when re-roofed with Johns-Manville Asbestos Shingles *laid right over the old shingles.* Think of the satisfaction of knowing that you'll never have to worry about your roof again. Johns-Manville Asbestos Shingles end roofing expense. Let your local Johns-Manville Dealer tell you how *little* it will cost you to beautify and protect your home with these everlasting asbestos shingles.

Study These Homes

Successive owners of these houses will enjoy permanent beauty and protection from fire and weather. This is so because their roofs are of Johns-Manville Asbestos Shingles. A Certificate of Registration goes with every genuine J-M Asbestos Shingle Roof.

What "Made by J-M" Means

Johns-Manville Asbestos Shingles bear the "J-M" trade-mark — the hall-mark of quality of the world authority on Asbestos and its products. J-M Asbestos Brake Lining makes motoring safer for millions of car owners. J-M Built-up Asbestos Roofs guard office buildings and factories from coast to coast. Throughout industry "Johns-Manville" packings, insulations and fireproof building materials are famed for their unfailing service and quality. Write today for our booklet, the "New Book of Roofs."

Johns-Manville
RIGID ASBESTOS SHINGLES

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JOHNS-MANVILLE CORPORATION
New York Chicago Cleveland
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Send me your free booklet telling the story of colorful, permanent roofs.

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Vacation in CANADA

. . . Choose a Mountain, Forest or Seaside Resort

Enjoy the august solitudes and towering heights of the glorious Canadian Rockies this summer. See mountains crowned with eternal snow, giant glaciers, deep-rent canyons, jade-green lakes, and wild life forest sanctuaries.

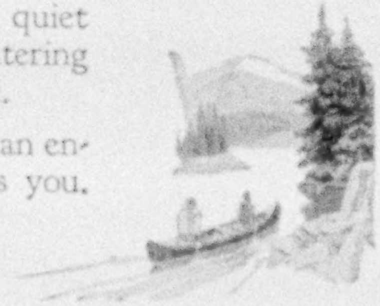
Stop at Jasper Park Lodge in the heart of Jasper National Park. Here you can play golf and tennis, swim, motor, climb mountains, ride trail and in the evening dancing, music and other social diversions complete the day's enjoyment.

The forest empire of the Highlands of Ontario also offers wonderful opportunities for those who love the great outdoors; splendid fishing, canoeing and swimming. Or come to the sea-swept shores of the Maritime Provinces — Nova Scotia, New Brunswick and Prince Edward Island.

Explore ancient Quebec or choose a quiet haven among the many delightful watering places along the Lower St. Lawrence.

Come to Canada this summer—here an enjoyable, invigorating vacation awaits you.

For booklets and information on Canada's vacationlands, consult the nearest Canadian National Office.



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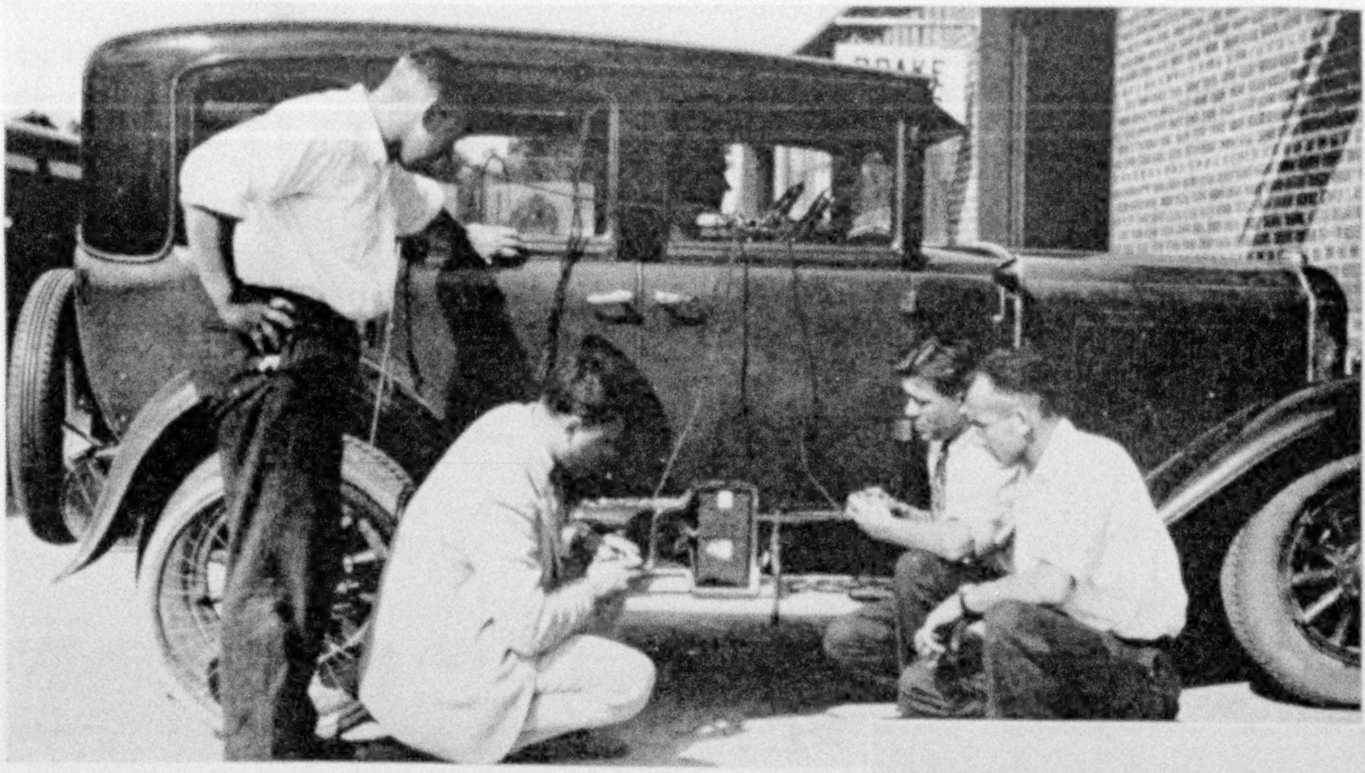
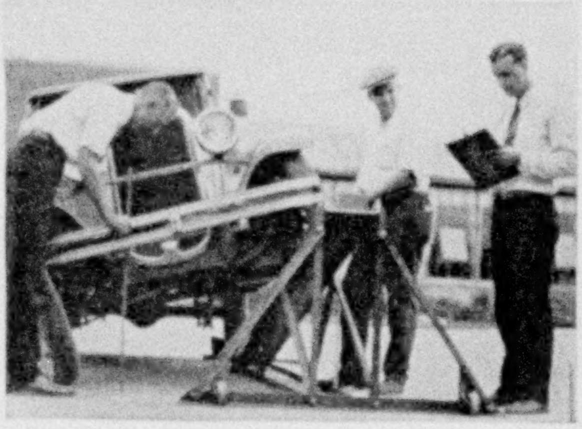
OPERATING RAILWAYS · STEAMSHIPS · HOTELS · TELEGRAPH AND EXPRESS SERVICE · RADIO STATIONS

No. 4. *Inside pictures of the General Motors Proving Ground*



Engineers examining a photographic accelerometer. This device they developed to show on a motion picture film exactly how much "pick up" a car has per second.



Twisting a car out of shape to determine how stresses and strains affect all parts of it.

"Prove it!"

"YOU'VE got to show us!" say the engineers at General Motors Proving Ground. They hold no brief for *any* car. Their loyalty is only to *facts*.

The Proving Ground occupies 1268 acres in Michigan, convenient to all General Motors' car divisions. It is a great "outdoor laboratory" where automobiles can be tested in a scientific manner under conditions exactly comparable. Especially constructed roads and hills duplicate every driving condition.

At the Proving Ground the General Motors' car divisions thoroughly test and prove their new models before they are offered to the public.

Here also cars of different American and European makes are tested after they are put on the market, thereby enabling General Motors to know precisely how its products compare with others in their respective price classes.

The tests involve speed, power, endurance, braking, riding comfort, handling ease, fuel and oil consumption, body style—every phase of car construction and performance. Claims and opinions are reduced to *facts*.

* * *

A MOTION PICTURE showing the Proving Ground in actual operation is available in lengths of one, two, or four reels, free of all charges except those of transportation. It may be borrowed by schools, clubs, churches, and other organizations. Please specify whether the 35 or 16mm width is desired and give several weeks' notice in advance of showings. Write to Institutional Advertising Department, General Motors, Detroit.

TUNE IN — General Motors Family Radio Party. Every Monday Evening. 8:30 Eastern Standard Time. WEAF and 37 other stations associated with N. B. C.

CHEVROLET · PONTIAC · OLDSMOBILE · OAKLAND
VIKING · BUICK · LASALLE · CADILLAC · *All with Body by Fisher*
GENERAL MOTORS TRUCKS · YELLOW CABS *and* COACHES · FRIGIDAIRE—*The Automatic Refrigerator*
DELCO-LIGHT *Electric Power and Light Plants* · DP *Water Systems* · GMAC *Plan of Credit Purchase*

Gee! **We are going to see real, live Indians »**

Here is a real Out West Outing- the Indian-detour, Grand Canyon, Colorado Rockies, California.

SANTA FE daily FAR WEST Xcursions—this summer—offer you a vacation at very reasonable cost—either individually or by escorted all-expense tours—After California—Hawaii.

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Santa Fe

W. J. Black, Pass. Traf. Mgr., Santa Fe System Lines, 952 Railway Exchange, Chicago, Ill.

Please mail picture-folders checked below:

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PROVE TO YOURSELF THE EXTRA... MILEAGE IN A GILLETTE

GILLETTE Tires need no coddling. You can bounce over rough, uneven roads, pound over car tracks and "burn up" the concrete. Gillettes will stand up.

As pioneers in modern tire building methods, Gillette knows how to build more wear into tires. There's more pure, live rubber around the cords, cushioning them against shock and strain. Tougher and more massive treads give added protection to the cords and longer life to the tire.

Test one yourself. Find out how much extra mileage you actually get from a Gillette. Then you'll want Gillettes all around.

GILLETTE RUBBER CO.
EAU CLAIRE, WISCONSIN

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A BEAR FOR WEAR

RADIO

Tune in on Station WTAQ, [1330 Kilocycles] owned and operated by the Gillette Rubber Co., Eau Claire, Wis. Educational and entertaining programs, including the popular Gillette Bears.

Gillette
TIRES AND TUBES

AMERICAN EXPRESS

The Right Hand Man to travelers in Europe

As the ship's gangplank goes down in the ports of foreign lands, a bustling, fascinating scene is unfolded. Foreign customs, trains, strange signs are there, uniformed officials . . . and, a familiar figure . . . an American Express man. ℭ There he is unravelling the mysteries of a foreign time table and helping others to get their train reservations. Then he speeds over to help that party of ladies who cannot understand a word the customs man says; or to assist others with hotel reservations or passports. Similar scenes happen elsewhere abroad at dozens of frontier points, piers and docks. ℭ This American Express man, together with scores of others, typifies the Helpful Hand of Service which is automatically extended to those who carry American Express Travelers Cheques. The moment you convert your money into these safe and spendable funds, you become entitled to the help, guidance and advice of these smiling sentinels of service no matter where you may be...*Issued in denominations of* $10, $20, $50 *and* $100. *Cost* 75c *for each* $100 ...For sale at 22,000 Banks, American Express and Railway Express Agencies. Merely ask for the internationally-known American Express Travelers Cheques—sky-blue in color.

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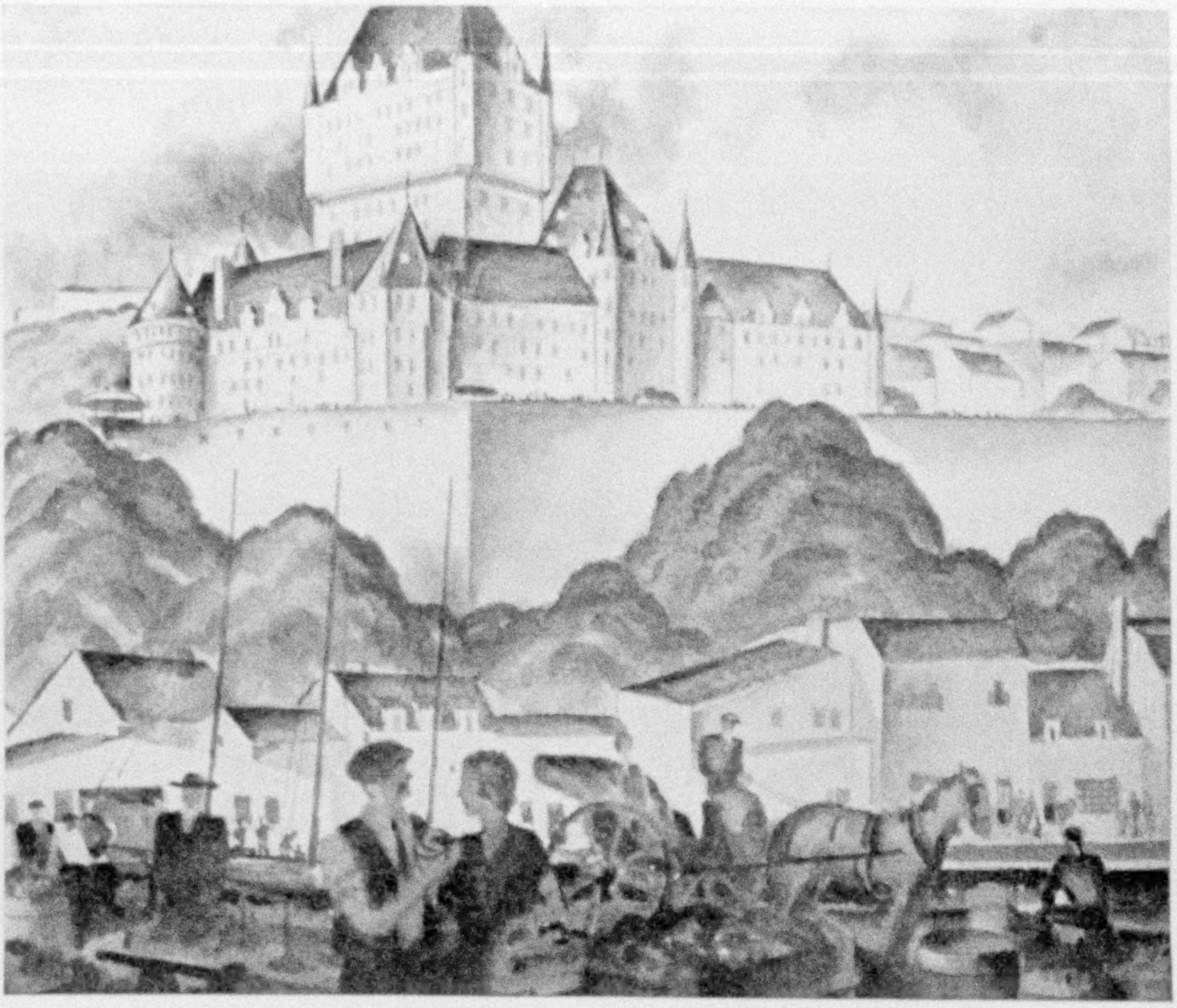
Chateau Frontenac



MOTOR IN MAYTIME TO OLD QUEBEC

Send your car flying up the fast cement highway to Montreal under a setting moon . . . wind along the St. Lawrence road past signs that say *"Cotages Americains to let of tourists"*...past villages ever more French, to the tall Norman towers of the Chateau, stateliest of world hotels, high-perched on Diamond Head. No lovelier motor run on the Eastern Seaboard.

In Québec, the French shops to explore, the ancient citadel, the 17th-century Basse Ville, the Montmorency golf course, gay affairs at the Chateau, centre of the old French city's life.

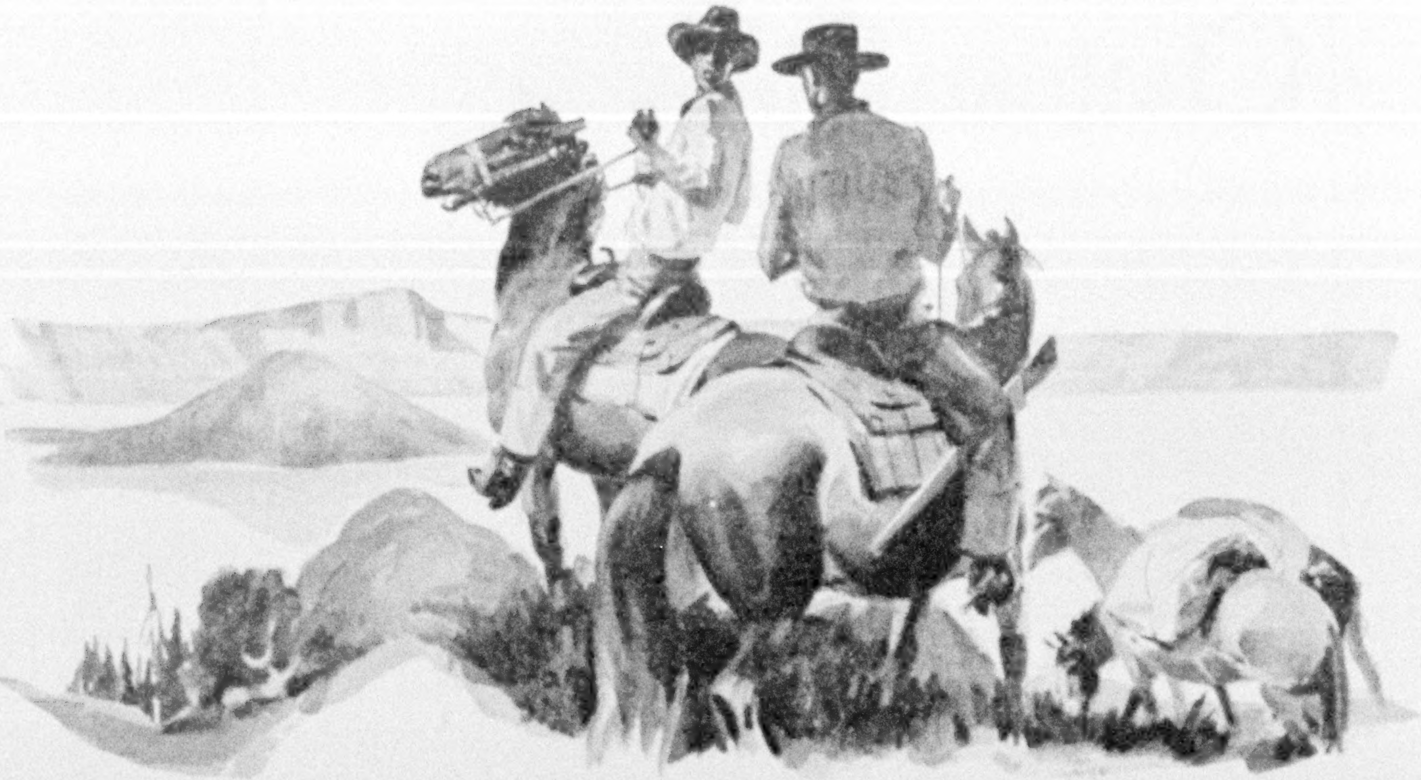
From Québec, what jaunts!...l'Ile d'Orleans, with its Norman farms and exquisite churches in the fields...the red road to Gaspé, where you learn to buy gas in French, and they give you *blanquette de sang* for lunch... Ste. Anne de Beaupré of the miracles...Murray Bay, often called the Newport of Canada ...Indian Lorette where Hurons make snowshoes...and always the delicate beauty of the Northern spring...a lovely land where even the long-wedded become lovers again!

Make a French holiday this Maytime... by motor, or by fast express, leaving New York at night and lunching at the Chateau Frontenac next day.

Full information and reservations at any Canadian Pacific Office, or write to Chateau Frontenac, Québec, Canada. New York, 344 Madison Ave...Chicago, 71 E. Jackson Blvd...Montreal, 201 St. James St., West, and 30 other cities in United States and Canada.

Canadian Pacific

World's Greatest Travel System



Crater Lake—*Nature's mystery*

See this and the whole Pacific Coast—
Low summer fares start May 15

In southern Oregon is one of the scenic wonders of the world. This is Crater Lake, blue as indigo, round as a saucer and six miles wide—a deep lake occupying the cauldera or sunken pit of a smashed volcano.

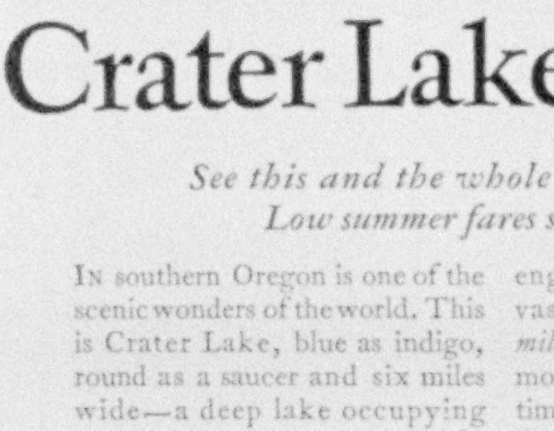
Ages ago the volcano, probably 15,000 feet high, held its flaming torch above the Pacific's shore. Then it grew cold, glaciers took form, and great rivers sprang away to cut the Klamath, Rogue and Umpqua river valleys of today. At some later date a cataclysm engulfed the upper half of this vast mountain. *Seventeen cubic miles* of stone sank inwards—the mountain had swallowed itself. In time, rain and melting snow gave the pit a living lake.

In 1853 a party of prospectors were ranging over the Cascade Mountains in search of a lost mine. The mine was not to be found. But the horse of one rider stopped suddenly, his feet planted at a steep brink. A thousand feet below lay this round, weird, flashing lake of deepest blue. For years the magic lake remained almost inaccessible, although stories of its mystery and beauty spread around the world. But today it is readily reached from either the Siskiyou or the Cascade line of Southern Pacific's SHASTA ROUTE—a most enjoyable stopover between Portland and San Francisco. Comfortable motor stages in the travel season, July 1 to September 20, connect with Southern Pacific at either Medford, Klamath Falls or Chiloquin to bear the visitor through virgin forests to the Lake's high, craggy rim. Good accommodations are available at the lake. With its surrounding forests, pinnacles and neighbor lakes, Crater Lake is now a national park.

See the whole Pacific Coast

Crater Lake is only one of the playgrounds accessible by Southern Pacific, whose four great routes penetrate and explore the West. No other railroad offers such a choice of routes. You can go west one way, return another; stopover anywhere. Low summer fares will be in effect May 15, return limit October 31.

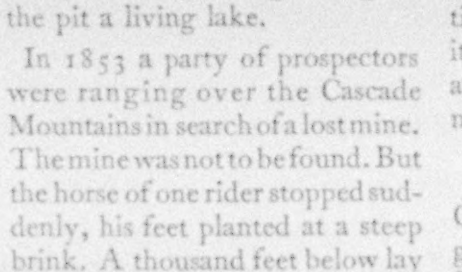
Write to E. W. CLAPP, 310 S. Michigan Blvd., Chicago, for illustrated books: *"Crater Lake"* and *"How Best to See the Pacific Coast."*



Through glorious mountain scenery on the Shasta Route.

Southern Pacific

Four Great Routes



BARCELONA

Picturesque City of Spain

BIRTHPLACE of romance . . . land of dreams and music — ages old, yet ever new . . . quaint customs . . . pristine splendor and magnificence . . . such is Spain . . . exotic Spain!

Broad highways that blend into fabled landscapes . . . air liners that drone through the night . . . swift railways of Continental perfection . . . all lead majestically into Barcelona.

And here amidst Spain's most picturesque setting, rise the palaces and spires of the great International Exposition of Barcelona. Eight years in the building . . . 12,000,000 square feet of splendor . . . truly a gorgeous spectacle . . . an endless variety of entertainment for the cultured, inquiring mind.

From May to December, this Exposition will be the centre of the world's interest in art, science, industry, commerce, education and sports.

For information apply to any Tourist Bureau or write to M. Ventura, Steinway Hall, New York City.

Travelling time to Barcelona

from	*train*	*air*
London	30:10 hrs.	15:25 hrs.
Paris	23:15 hrs.	10:35 hrs.
Berlin	39:00 hrs.	14:35 hrs.
Biarritz	18:00 hrs.	6:55 hrs.

INTERNATIONAL EXPOSITION BARCELONA

1 MAY 9 TO 2 DECEMBER 9

The trunk that never forgets

If Oshkosh Trunks had eyes and ears and hands and feet, they could hardly serve you more skilfully.

"Keep this safe for me," you say, as you hang up your favorite evening dress in your Oshkosh Wardrobe. (It obeys.)

"Meet me in Southampton, and don't forget to bring my jewel case." (An Oshkosh never forgets.)

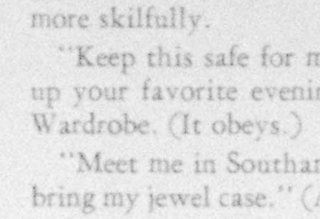
"I should appreciate it if you would keep this dinner coat nicely pressed until a week from Thursday. Bring it out to the Lorillards', and don't get it wet on the way." (The Lorillards will see you at your best.)

And your Oshkosh never needs to be fed, or coaxed, or disciplined. It never has nerves, never gets tired of following you around.

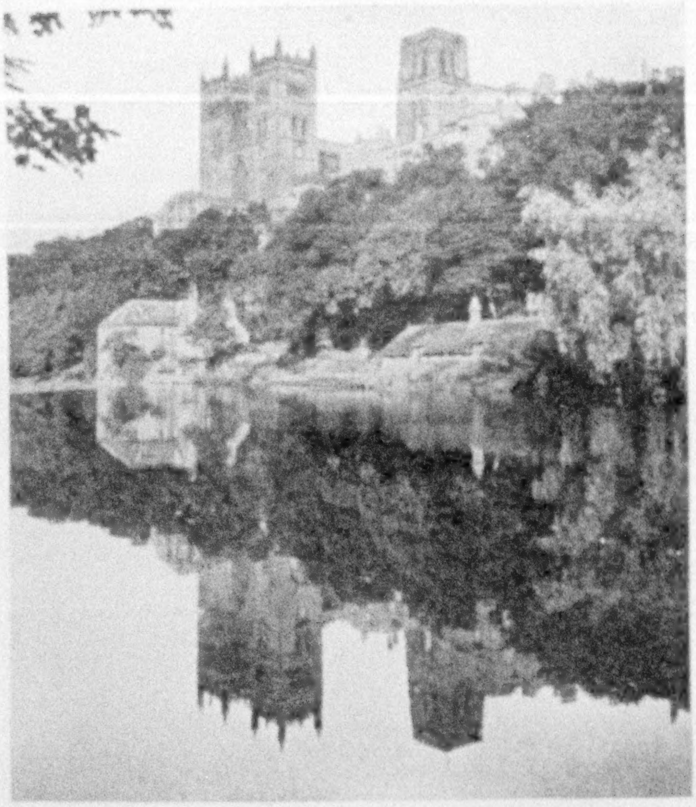
Consult the nearest dealer in fine luggage or write us at 501 High Street, Oshkosh, Wisconsin, for a book that gives some of the reasons why these trunks are so uncanny in their ability to discover your particular needs and fill them.

OSHKOSH TRUNKS

The Oshkosh Trunk Company, Oshkosh, Wis.,
and 8 East 34th St., New York City



This Oshkosh Pullman Wardrobe measures 29" x 20" x 9", just the right size to fit under a Pullman berth. Comes in several models, fibre, or duck-covered. It is ideal for short trips. The price ranges from $30 to $70.



Durham Cathedral

Why not Europe this August or September? . . .

The Cunard Cabin Way invites you!

Late Summer and early Fall a glorious season in Europe! There's more freedom abroad. The rush season is over and life is less crowded. Paris always seems more French . . . Shakspere Land more glamorous and restful . . . the Black Forest pines more fragrant . . . the lakes of Lombardy more colorful. Begin your vacation on a Cunard Cabin Ship!

With three sailings a week and the choice of seven European ports to land at, seventeen great Cunarders link unsurpassable ocean comfort with moderate cost. Splendidly equipped staterooms, generously proportioned decks and public rooms, enticing food and service—all proclaim the world-known Cunard standard of Cabin Travel.

And on all these ships are very bright and surprisingly comfortable Tourist Third Cabin accommodations. Rates: Cabin $145 up . . . Tourist Third Cabin $102.50 up.

CUNARD LINE

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CHICAGO MILWAUKEE ST. PAUL AND PACIFIC

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—Spokane and the Inland Empire's lakes
—Seattle and Tacoma, romantic world ports
—Glacier-clad Mt. Rainier; Alpine sports
—Olympic Peninsula; Indians, ocean beaches
—Island-dotted Puget Sound, quaint Victoria, busy Vancouver, snowy Mt. Baker.

Thrills galore! Glorious sport, adventure, recreation! That's what the Northwest wonderland offers you.

Vacation there this summer. Easily accessible over the *electrified* Milwaukee Road—marvelous travel comfort. Go independently or with escorted tour parties. Low Summer fares. Coupon brings information.

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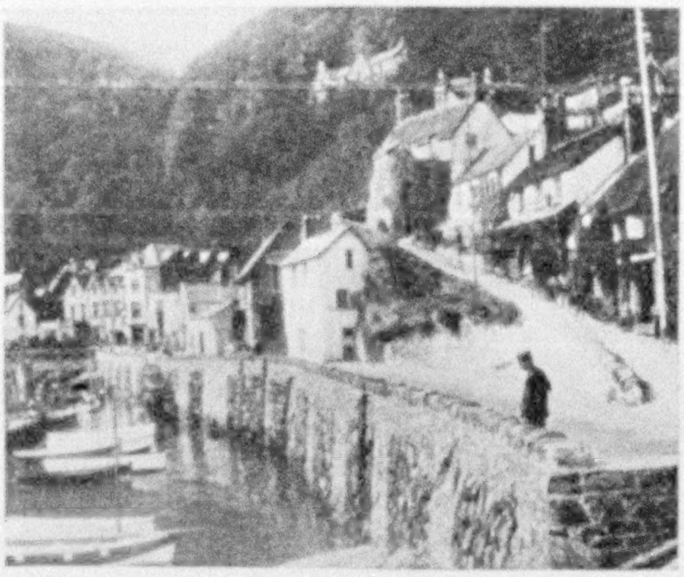
Geo. B. Haynes, Passenger Traffic Manager 450-39
The Milwaukee Road, Room 938, Union Station
Chicago, Ill.

Send information about: ☐ All-expense tours ☐ Personally-escorted, all-expense tours. I have a ______ days vacation and about $ ______ to spend. Include: ☐ Yellowstone via Gallatin Gateway; ☐ Spokane (Inland Empire); ☐ Mount Rainier National Park; ☐ Puget Sound Country; ☐ Olympic Peninsula; ☐ Alaska; ☐ Black Hills.

Name ______________________________

Address ______________________________



Along the King's High Road . . .

Your trip to Europe is incomplete without a visit to Great Britain . . . motor along the King's High Road . . . Know intimately the charm of the Old-World countryside . . . ancient forests, high rolling moor lands where the purple heather grows . . . quaint little villages, historic Wayside Inns.

See the romantic West Country — Devon and Cornwall . . . the Shakespeare and Washington Countries . . . the Peaks of Derbyshire and the enchanting English Lakes. Or Bonnie Scotland . . . wind swept Highlands . . . mirror-like Lochs. Ireland, too, with its fairyland of Killarney . . . Wales with its rugged mountains.

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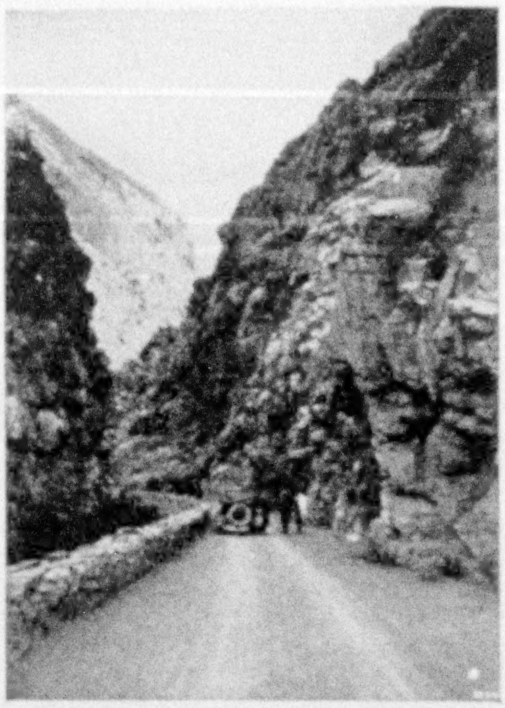

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South Africa

Offers the visitor mile after mile of fine iron-stone motor roads. The famous drives around the Cape, in Northern Transvaal, or through Natal are indicative of many fascinating trips enjoyed on uncrowded thoroughfares in this year-round travel land. As you glide along, beautiful flowers, towering mountains, and far-flung verdant veld charm you. The invigorating climate and mellow sunshine fill you with youthful, happy, care-free healthfulness. You see modern cities and quaint kraal life, and at each day's end you rest in comfortable modern hotels.

Where else in the world can you see
Acres of Diamonds
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Forty Miles of Deep, Stupendous Gold Mines
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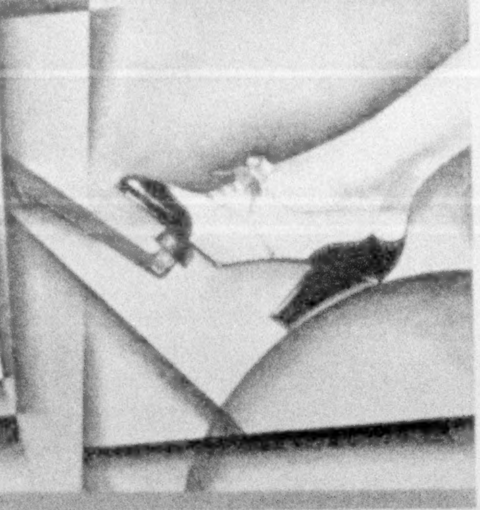
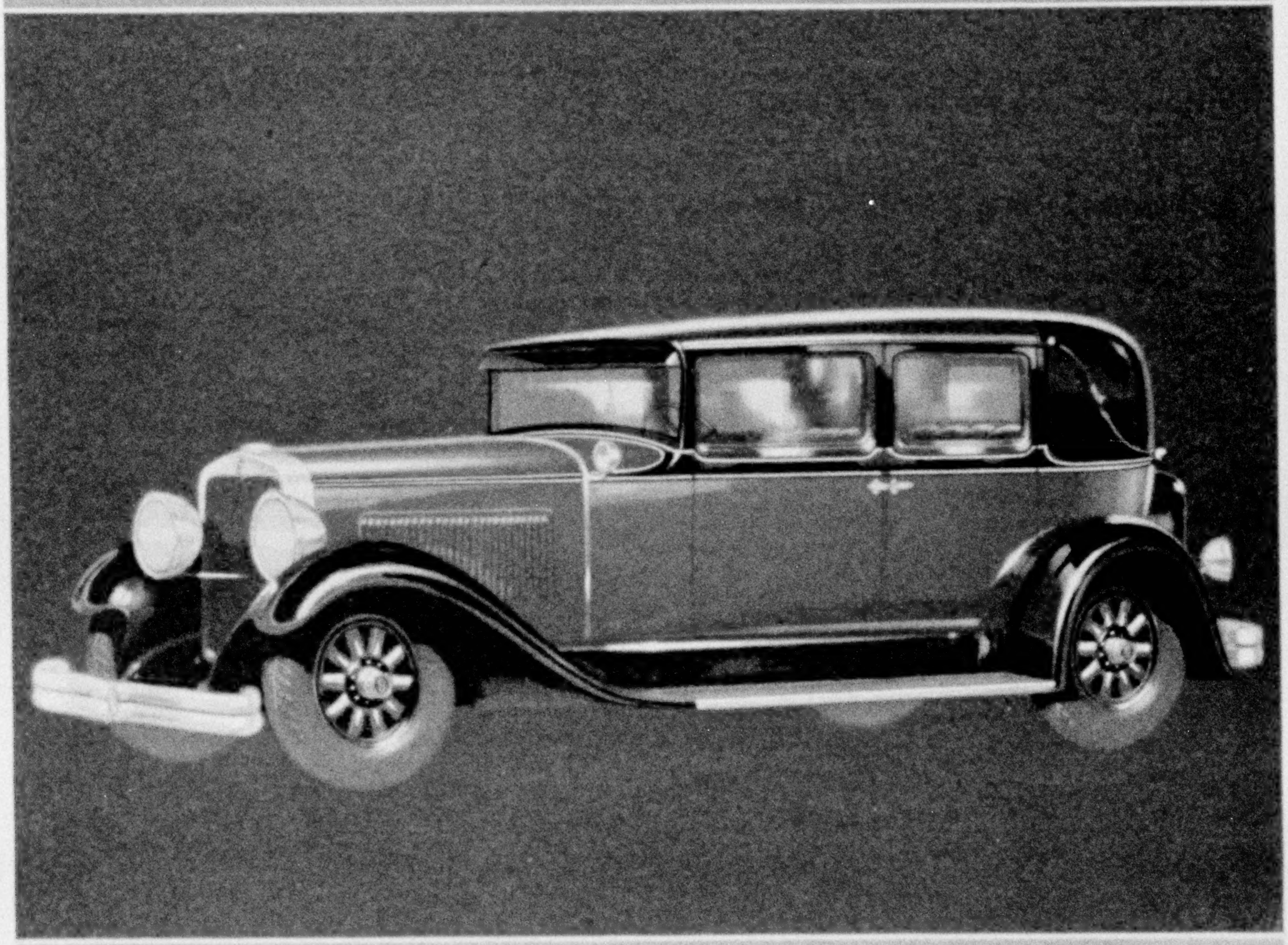
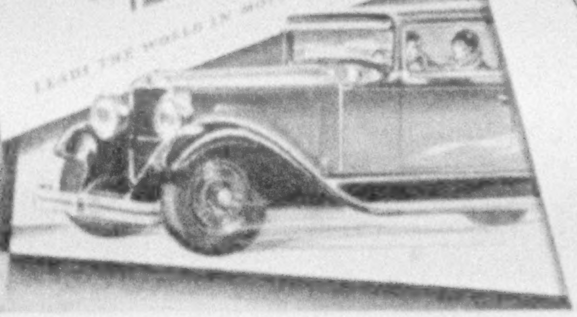
THE FINEST TYPE OF CENTRALIZED CHASSIS LUBRICATION





THE NEW NASH "400"

LEADS THE WORLD IN MOTOR CAR VALUE

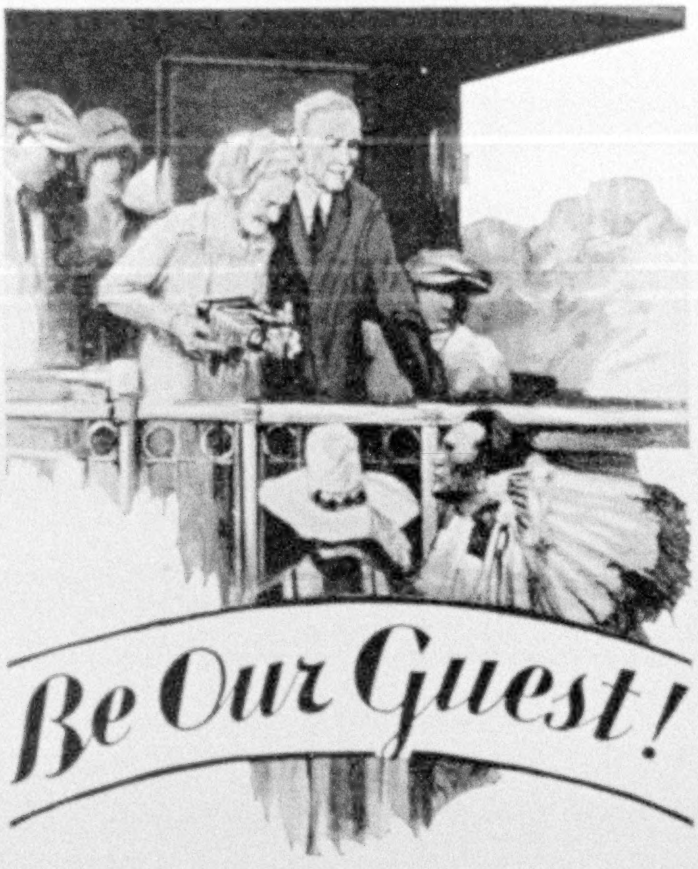


FINALLY, a system of centralized chassis lubrication has been perfected which operates easily, immediately, and invariably.

Nash now offers it on every Advanced and Special model of the new "400" series . . . Nash-Bijur . . . the finest device ever produced to supply chassis bearing points with necessary lubrication.

You simply press a convenient pedal (a child can do it), and twenty nine chassis points, spring shackles, steering knuckles, clutch bearing and the like . . . are bathed in fresh, clean, wear-resisting oil.

Nash-Bijur centralized lubrication does away with all the bother and expense of old-fashioned chassis greasing. Press the pedal once a day, lubrication follows. Chassis squeaks are avoided, chassis wear is prevented . . . when you drive the new and finer Nash "400."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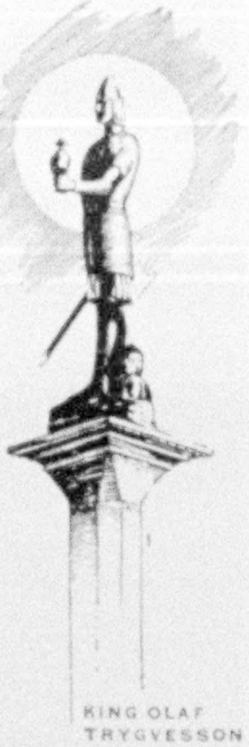

Not merely Paris and London, Italy and Switzerland, but Copenhagen, gay and beautiful—Stockholm, the "Venice of the North"—Oslo, capital of Norway—Norwegian Fjords—the spectacular Midnight Sun; lonely, progressive Iceland; Finland & Esthonia on the Baltic, fascinating for their strange Russian character. See them this summer on a

RAYMOND-WHITCOMB

North Cape Cruise

¶Two Cruises over the same route.

¶Sailing June 26 on S. S. "Carinthia" and June 29 on the S. S. "Franconia."

Rates, $800 and upward

¶This is the ideal way to see Northern Europe . . . a five weeks Cruise which will reach France and England in good time for further travel abroad.

Send for the Raymond-Whitcomb Booklet, "The North Cape Cruises"

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¶On the S. S. "Columbus," largest and fastest liner ever to sail round the world. With less time at sea than any other round the world cruise, yet unusually complete in its program of calls, excursions and sight-seeing. Sailing January 21, 1930.

SOUTH AMERICA CRUISE

¶An unusual cruise, completely encircling South America. Sailing February 1, 1930, on the S. S. "Samaria," for a two-months' voyage during the southern summer. Limited to small membership.

EUROPE

¶Summer tours with carefully planned programs of travel, diversity of routes, wide range of prices.

¶Steamship tickets, hotel reservations, and complete advance arrangements for independent trips.

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Danger lurks behind white teeth

NOBODY'S IMMUNE*

**the disease-of-neglect ignores teeth, attacks gums and claims 4 out of 5 as its victims*

Forhan's
TRADE MARK
FOR THE GUMS
BRUSH YOUR TEETH WITH IT

WHITE teeth are attractive. Their soundness contributes to the preservation of good health. But remember, teeth are only as healthy as the gums. And however white they may be, danger lurks behind them.

For certain prevalent diseases-of-neglect ignore teeth and attack the gums. And when once contracted only expert dental treatment can stem their advance. Too many of us disregard this threat. And as the penalty for neglect, 4 persons out of 5 after forty and thousands younger sacrifice health. A needless sacrifice!

These odds are unfair, deceiving. This simple regime brings protection: See your dentist at least once every six months. And when you brush your teeth, brush gums vigorously with the dentifrice made for the purpose... Forhan's for the Gums. This dentifrice helps to firm gums and keep them sound. Thus it fortifies teeth and health. As you know, Pyorrhea and other diseases seldom attack healthy gums.

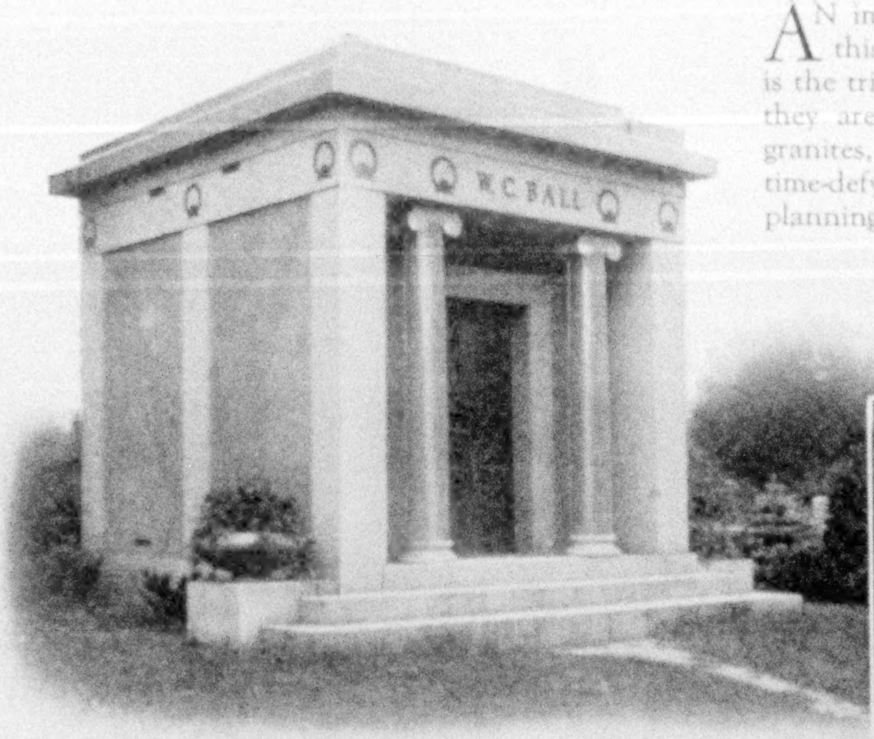
In addition, the way in which Forhan's cleans teeth and helps to protect them from decay will delight you.

Start using Forhan's, regularly, every morning and every night. Teach your children this good habit. They'll thank you in the years to come. Get a tube of Forhan's from your druggist. Two sizes, 35c and 60c. Forhan Company, New York.

Forhan's for the Gums is more than an ordinary toothpaste. It is the formula of R. J. Forhan, D. D. S. It is compounded with Forhan's Pyorrhea Liquid used by dentists everywhere. You will find this dentifrice especially effective as a gum massage if the directions that come with each tube are followed closely. It's good for the teeth. It's good for the gums.

YOUR TEETH ARE ONLY AS HEALTHY AS YOUR GUMS

Forhan's
FOR THE GUMS



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AN immortal shrine of hallowed memories is this mausoleum of classic design. Enduring is the tribute of the beautiful symbolic urn. For they are lovingly wrought from Dodds' eternal granites, Nature's own matchless material for time-defying commemorative architecture. When planning a memorial of infinite fitness, let Dodds' creative staff assist you; and write for a copy of the helpful booklet, "Modern Memorial Art."

Above: W. C. Ball Family Mausoleum, Beech Grove Cemetery, Muncie, Indiana.

At Right: Memorial Urn, Ferncliff Cemetery, Springfield, Ohio. Stony Creek Granite, all polished.

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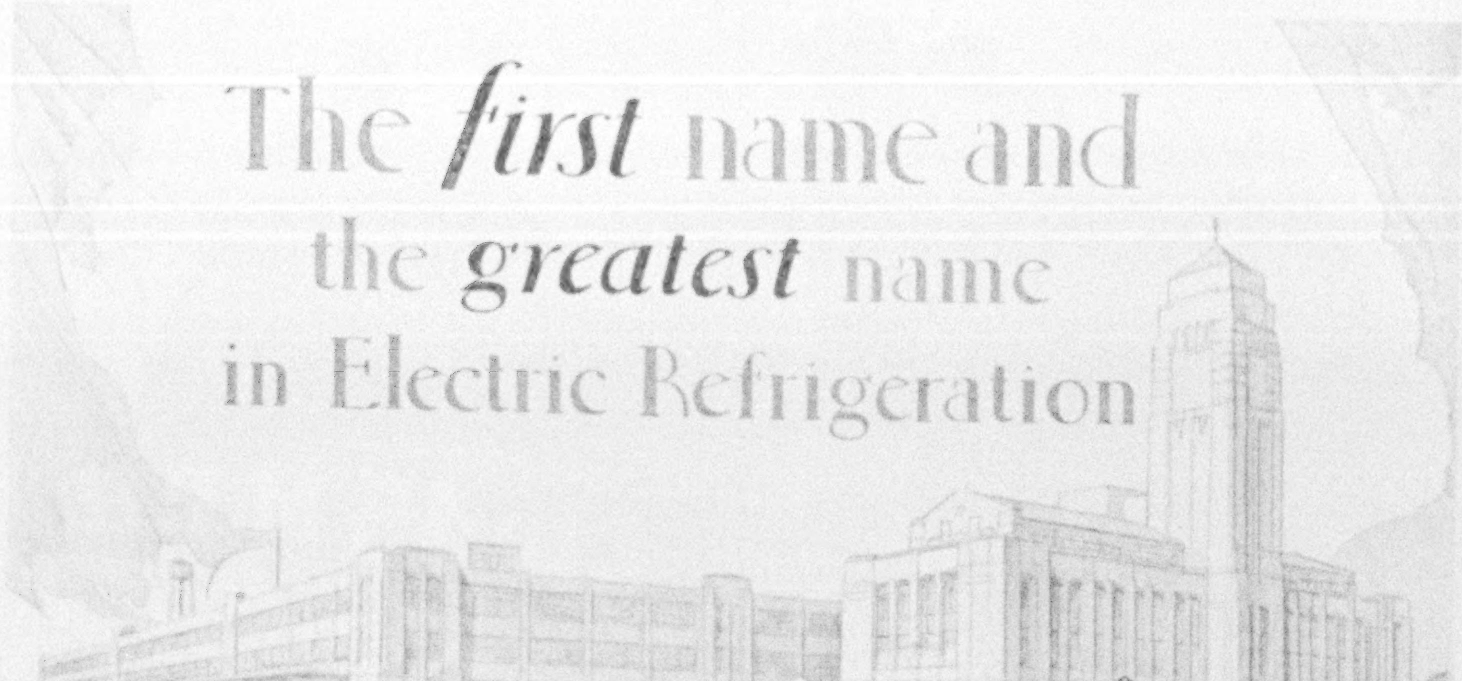
— ESTABLISHED IN 1882 —

The *first* name and the *greatest* name in Electric Refrigeration



The difference in Kelvinator is that Kelvinator embodies every worthwhile new feature of performance, *plus* a proven reliability found nowhere else.

Test and inspection devoted to every part and process in building Kelvinator insure dependability before ever a single unit may leave the factory.

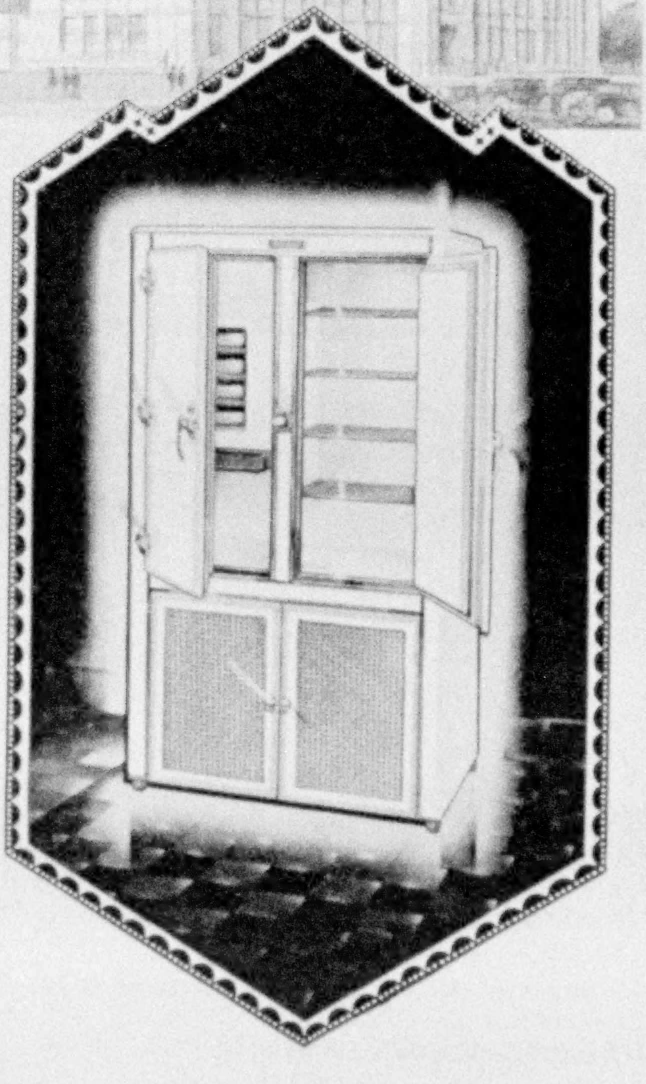
Because for 15 years Kelvinator has dedicated its best efforts to lasting reliability, your choice becomes very simple. You will be better served by the reliable Kelvinator.

In the New 1929 Kelvinator

Silence—Positive and Permanent
Completely Automatic Operation
Flexible Rubber Trays for Ice Cubes

The latest word in modern electric refrigeration —true and lasting silence of operation, wholly automatic and reliable operation, and a new method of handling ice cubes. Flexible rubber ice trays enable you to extract the ice cubes in a flash, simply by bending the tray. Beautiful new cabinets—a gem in any kitchen. Enjoy Kelvinator now on Kelvinator's attractive ReDisCo monthly budget plan.

KELVINATOR CORPORATION, DETROIT, MICH.



The Kelvinator manufacturing plant pictured herewith belongs to the greatest group of plants in the world devoted exclusively to the manufacture of refrigeration

THE RELIABLE

KELVINATOR

PALMOLIVE
Shaving
Cream

We'll pay for Your Test

Accept this 7-day trial tube at our expense. Prove these remarkable claims for this unique shaving cream. Mail the coupon

GENTLEMEN:

With a product such as ours the advertising problem is chiefly to get you to make this 7-day test. For results have proved that 86% of men adopt Palmolive Shaving Cream—once they try it.

A seven days' test on your own face beats all the laboratory tests that *we* can make.

Now, if you will return the coupon below, we will give you new ideas of shaving comfort. For we believe in proving our claims first—*then* asking you to buy.

Shaving preparations had not kept pace with shaving needs. We studied long, then asked 1000 men's advice. They told us others' shortcomings. And we set out to fulfill them. 129 formulas, tried and discarded, finally brought success. Five unique features were attained.

Suited or not, you owe it to yourself to try this remarkable shaving cream. So won't you mail the coupon now?

PALMOLIVE RADIO HOUR—Broadcast every Wednesday night—from 9:30 to 10:30 p. m., eastern time; 8:30 to 9:30 p. m., central time; 7:30 to 8:30 p. m., mountain time; 6:30 to 7:30 p. m., Pacific Coast time—over station WEAF and 37 stations associated with The National Broadcasting Company.

4542

7 SHAVES FREE

and a can of Palmolive After Shaving Talc

Simply insert your name and address and mail to Palmolive, Dept. B-3064, 595 Fifth Avenue, New York City. In Canada, address Palmolive, Toronto, 8, Ont.

(Please print your name and address)

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20 H. P.,
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More fun than flying!

FOR the *whole* family — "Evinruding!" For canoe, hunting skiff, rowboat, runabout, speed hull and small cruiser there's an Evinrude for the job. Four "Twin" models—2½, 6, 14 and 20 horsepower.

More power, more speed, more features for 1929—underwater exhaust, waterproof ignition, easy starting made still easier, torpedo-streamline, pressure-vacuum cooling (no moving parts), self-steering. Easy payments, as low as $31.10 down. *Write for new free Evinrude Year Book.*

EVINRUDE MOTOR COMPANY
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EVINRUDE

If your dealer cannot supply you ... order direct

New Idea in Toilet Kits

Made of
Solid Saddle Leather

HERE'S the handiest, best-looking toilet case you ever saw. A simple solid-leather box, *minus* the tricky loops and gadgets and cubby holes which waste time and patience. You just toss toilet articles in. No packing at all ... everything *fits*. Made of the same choice, thick saddle leather for which Hamley Cowboy Saddles are famous. Sewed with heavy waxed saddle thread, with corners back-stitched by hand and guaranteed not to rip. Sent postpaid. If you do not like it, we cheerfully refund your money! Hamley & Co., Saddle Makers, 244 Court St., Pendleton, Ore., U. S. A.

The HAMLEY KIT

Medium	(8⅝ x 3⅞ x 1⅞)	$ 6.00
Large	(9½ x 4½ x 2¼)	7.50
Extra Large	(10½ x 5⅜ x 2¾)	10.00

Name or initials embossed on lid, 25c extra

Stimulants, Sedatives or Food~

from a Health Standpoint

©1928, M.L.I.CO.

THE desire for extreme slenderness is bringing serious consequences. When stimulants, sedatives or drugs are substituted for the food needed to build health, the penalty is certain and severe—frequently broken health and sometimes death.

Half-truths are often more dangerous than falsehoods. While it is true that an excess of fat is frequently dangerous in the later years of life, it is not true that young people—under thirty years of age—can ordinarily expect to have good health if they avoid wholesome body-building foods and persist in a rigid "reducing" diet. There are certainly more cases of tuberculosis among young "underweights" than there are among those of normal weight.

During childhood and the early adult years, Nature demands a bodily reserve upon which she can draw to fight disease. In youth a few pounds of excess weight are a valuable protection against physical breakdown. The sacrifice of this needed tissue may result in permanent injury.

There is no mystery today in what constitutes an intelligent diet. The doctor who would not hesitate to prescribe a stimulant or a sedative in case of emergency, would forbid their use in place of needed foods.

A famous health expert was asked, "Do you think stimulants are harmful to everybody, no matter in what degree the stimulants are used?" He said, "Not always, but everyone should try to make himself so fit, physically, that he will not need or desire artificial stimulation. The hunger for stimulants is an indication of weakness and evidence of improper diet or other incorrect living habits."

Certain practices trick the appetite and dull the desire for food. When the demands of a normal appetite are too frequently denied, the appetite may be lost and food be made repugnant.

If the fathers and mothers of tomorrow will eat properly, exercise properly, work properly, sleep, breathe, stand, walk—yes—and *think* properly, they and their children will have better health and longer lives.

THE LIGHT THAT NEVER FAILS

The Metropolitan Life Insurance Company has the privilege of consulting famous specialists on important health questions. While the Metropolitan wishes to point out most emphatically the danger of too strenuous dieting at the earlier ages, it also wishes to stress, no less emphatically, the danger of overweight at the older ages.

Our booklet, "Overweight," tells the best methods to control these evils. It also tells what you should weigh considering your age and height. Ask for Booklet 59-N—mailed free. Address Booklet Department, Metropolitan Life Insurance Company, New York, N. Y.

METROPOLITAN LIFE INSURANCE COMPANY–NEW YORK

Biggest in the World, More Assets, More Policyholders, More Insurance in force, More new Insurance each year

A Loving Thought for Mother

Back of the gift is the giver.

It's the loving thought that mother craves, whether it be expressed in a diamond or a box of chocolates.

If you choose chocolates, select the same assortment you give the debutante — Whitman's Sampler. Mother will appreciate your thought.

The symbolism of the package expresses the beauty of Mother's Day. Starting with a quaint and quiet sentiment, the Sampler has acquired a particular and special niche in the regard of candy-lovers.

It is not merely "a box of candy," it is a message, a token, a fit symbol of "a loving thought for mother."

Order it early from the Whitman agent near you — usually the leading drug store. He gets his supplies *direct* from Whitman's.

An added touch of sentiment is the special wrap for Mother's Day illustrating — *"A Loving Thought for Mother."*

Whitman's
Sampler
Chocolates & Confections

Mother's Day
May 12, 1929

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Started in 1842

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DOWN DEVON LANES

By Herbert Corey

Author of "A Char-à-bancs in Cornwall," "Along the Old Spanish Road in Mexico," "London from a Bus Top," etc., etc., in the National Geographic Magazine

Two of us lived as well as travelers could on a motor tour of Devon. The daily cost for three meals and hotel room was under $15. That sum covered gas, oil, garage, and tips.

At this point the reader is properly incredulous. "They must have eaten most of their meals out of a bag."

But we did not. In each case we went to the best inn of the town, if a choice were possible. We always tried to get the best room. Only once or twice did we fail to find a room with two beds. Sometimes we slept amid such treasures of old mahogany that we groaned covetously in our sleep. Not often did we find private bathrooms. But not more than three times was there honest reason to grieve at the accommodation.

The automobile association road book stars inns in order of merit. The most we paid for a room was 30 shillings at a four-starred hotel. Here we had a huge chamber, with a white and brass bathroom resembling the engine room of a futuristic liner, and two beds puffy with mattresses and thick with down coverlets. That is the equivalent of $7.50. It is true that we felt ourselves vilely overcharged, but this was merely because our standards of value had been abruptly changed.

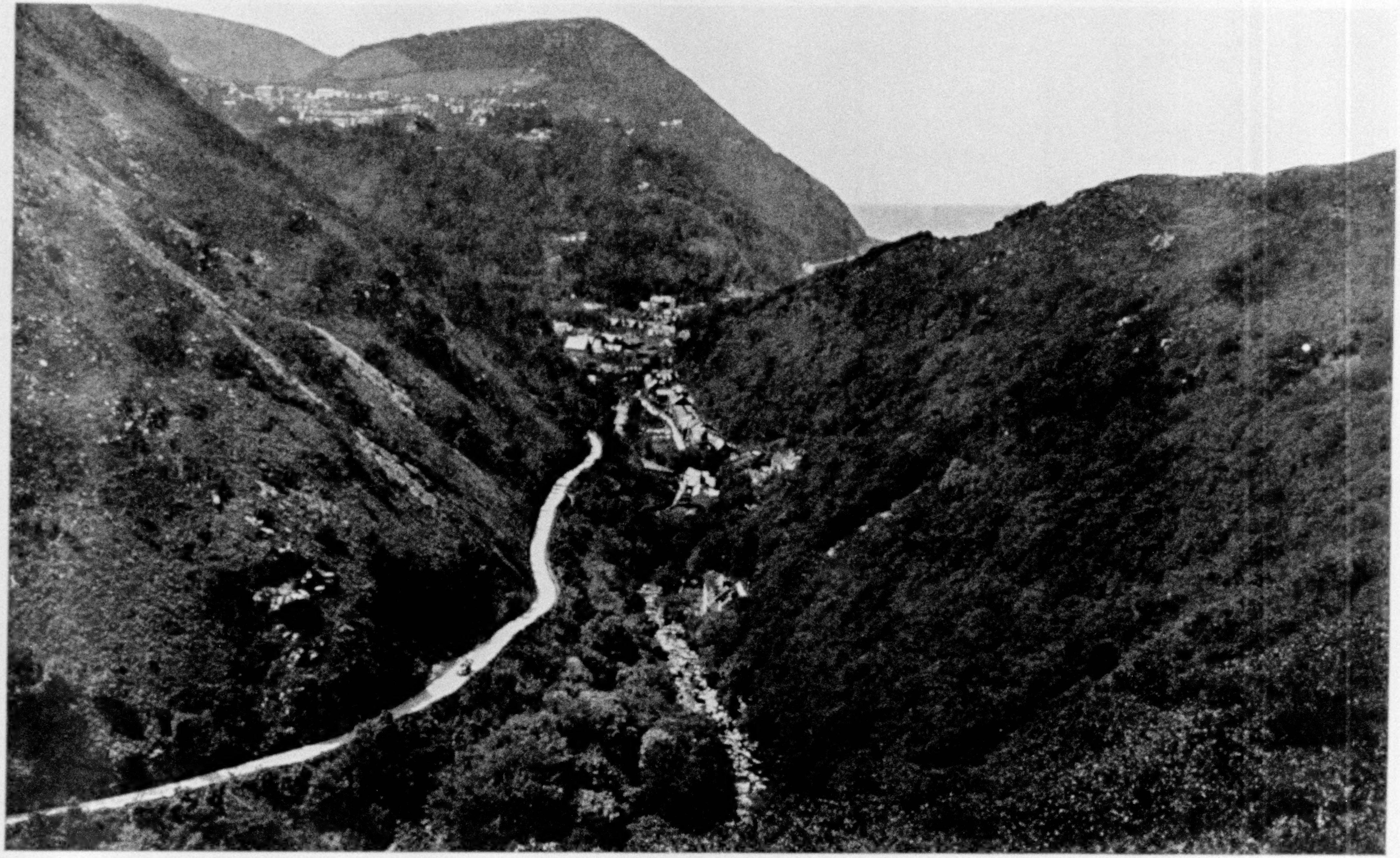
In other towns we had rooms with two beds for as little as nine shillings, and they were the best rooms in the most convenient inn at the most available town. In 50 days' touring the nightly cost of a double room averaged under 14 shillings, which is $3.50, as near as may be. Breakfast and lunch rated three-and-six for each and dinner not more than six shillings. At the top rates, then, the day's hoteling cost us: room, 14 shillings; breakfast, 7; lunch, 7; dinner, 12, a total of 40 shillings, or $10. That leaves a neat margin before the total of $15 is reached, which we estimate as our daily cost.

THERE WERE, OF COURSE, TIPS!

There were, of course, tips. In the more expensive hotels the chambermaid was delighted with one-and-six, the porter thought himself blessed with two shillings for toting our baggage upstairs and down to the car again, and the waiter's half crown for serving three meals seemed quite satisfactory. As we did not move on each day, the per-diem cost of tips was cut down somewhat.

That is, it should have been cut down. But the truth is that the financial member is an incurable spendthrift with small money. The Devonians occasionally stuff a tight, blue uniform with a small, plump boy and deck him with buttons and top him with a pill-box cap. Such a boy was always good for tuppence if the financial member could think of a good excuse. He could be incredibly harsh with dumb and surly chambermaids, even though they were persons of unimpeachable family lives. But a pleasant, twittering little thing, with a soft voice and a bright smile——

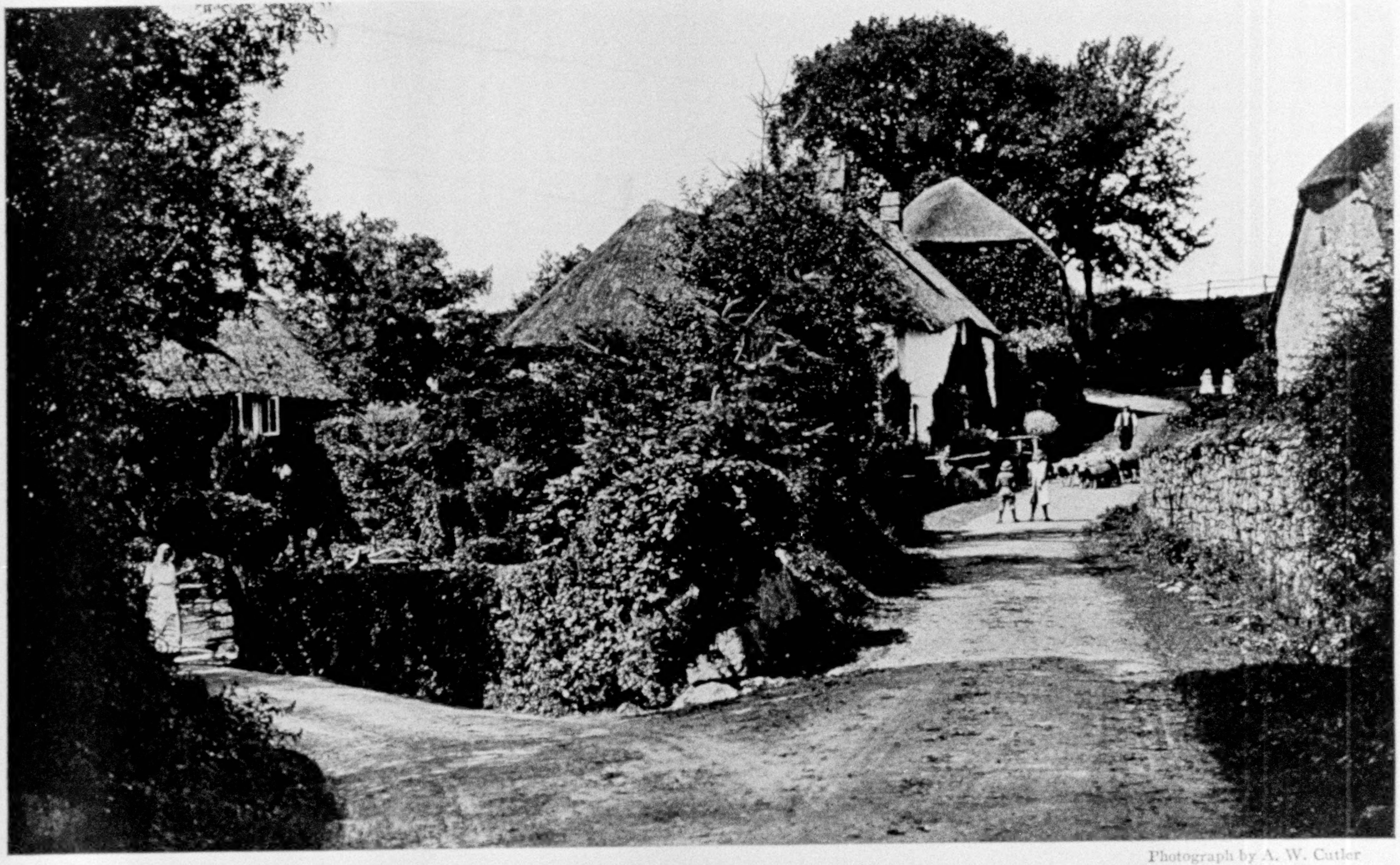
There was a girl at Totnes who, when she brought in the morning tea and stated



Photograph by A. W. Cutler

IT IS A STEEP PITCH FROM LYNMOUTH UP TO LYNTON

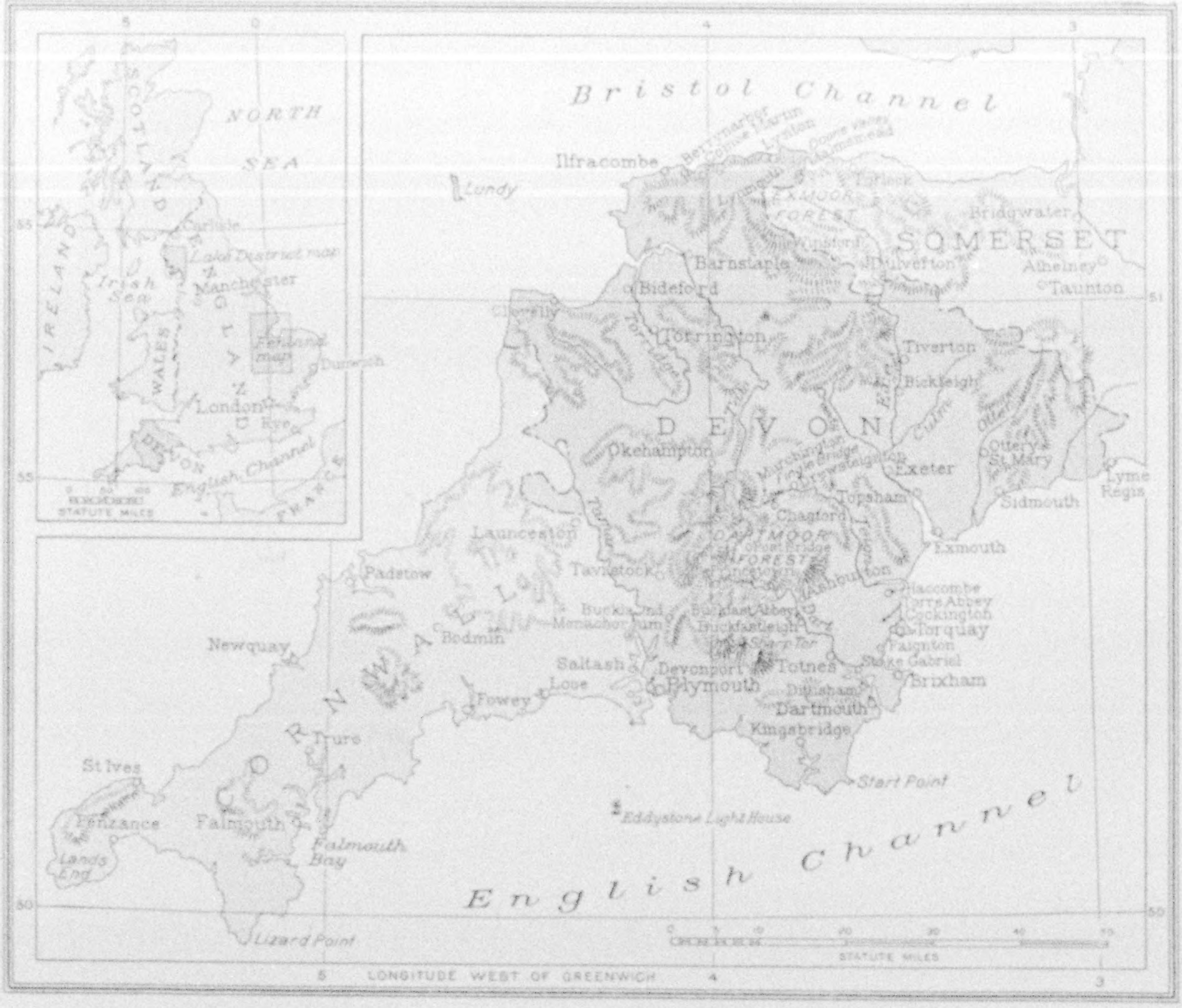
The Watersmeet Road, winding through the valley where the two Lyns meet and enter the sea, is a fine thoroughfare, but travel between the twin villages, the one 500 feet below the other, presents difficulties (see text, page 558). Gainsborough declared the place the most delightful in England for the landscape painter, and Southey knew of only two other spots, neither of them in the British Isles, to compare with it for beauty.



Photograph by A. W. Cutler

CENTURIES HAVE BEEN KIND TO STINIEL

Three extremely old farmhouses, all glimpsed here, constitute what is perhaps the most charming hamlet in Devonshire. It is only a few miles from Chagford.


Bristol Channel
English Channel
NORTH SEA
SCOTLAND
IRELAND
Irish Sea
WALES
ENGLAND
London
Manchester
Carlisle
Lake District map
Fenland map
Dunwich
Rye
DEVON
FRANCE
Lundy
Ilfracombe
Lynton
Barnstaple
Bideford
Torrington
Dulverton
EXMOOR FOREST
SOMERSET
Bridgwater
Athelney
Taunton
Tiverton
Bickleigh
DEVON
Okehampton
Exeter
Topsham
Ottery St. Mary
Sidmouth
Lyme Regis
Exmouth
Chagford
DARTMOOR FOREST
Ashburton
Launceston
Tavistock
Padstow
Bodmin
Newquay
CORNWALL
Saltash
Devonport
Plymouth
Fowey
Looe
Totnes
Torquay
Paignton
Brixham
Dartmouth
Kingsbridge
Start Point
Eddystone Light House
Truro
St Ives
Penzance
Falmouth
Falmouth Bay
Lands End
Lizard Point
STATUTE MILES
LONGITUDE WEST OF GREENWICH

Drawn by A. H. Bumstead

DEVON LANES LEAD TO TOWNS REPLETE WITH ENGLISH HISTORY

In making his tour of Devonshire, the author used a second-hand roadster of English make, purchased in August for $700, with the understanding that it would be repurchased in December for $450. The use of the car for four months, therefore, cost $250, including full insurance. The cost of operation and storage charges are included in the author's $15 a day for two (see text, page 529). The shaded areas of the inset map of England indicate the territory covered in the separate maps of the Lake and Fen districts (see pages 581 and 609, respectively).

with a lilt that it was a glorious day—confirmable by the sun that flooded through our windows—the financial member privately determined to enrich that girl without delay. A middle-aged person at Exeter dogged us with service until shillings rained upon her. And so on. There is no need for a complete confession.

GREAT HOUSES OVERTHROWN BY GEE-GEES

We are about to depart upon a divagation which has a delayed reason. During this period in Devon we attained to an intimacy with the great, but it was the wrong sort of intimacy—the sort that is secured by sitting in the dark on the kitchen stairway and listening quietly. Yet it has its points.

"These chairs," said the dealers, "belonged to the Duke of Soandso. I gave 300 guineas for them."

All dealers said this. One asked why a duke should sell chairs upon the legs of which generations of young dukes seemed to have cut their teeth. The dealers said that the duke—or the earl, or the marquis—had been following the gee-gees. They broke him. It was never the war, if the dealers were right, or the death duties. Always the horses. Let us take time out for comment. The English language does not change. A gee-gee is a horse, and a bobby is a bobby, and cabbage and potatoes is bubble-and-squeak.

It is true that Mr. P. G. Wodehouse's characters say "Pip-pip" and "Toodle-oo"

Photograph by A. W. Cutler

FOG ADDS TO THE MYSTERY OF GRIM MOORS

On this gray morning at Combe Martin, in north Devonshire, the boys must be real devotees of the favorite English sport of walking to pass the gate and go for a ramble across the countryside.

to each other, thereby stirring our easy mirth, but no one says anything of that sort in England. If anyone other than an American were to toodle-oo in public, some one would write to the *Times* about it.

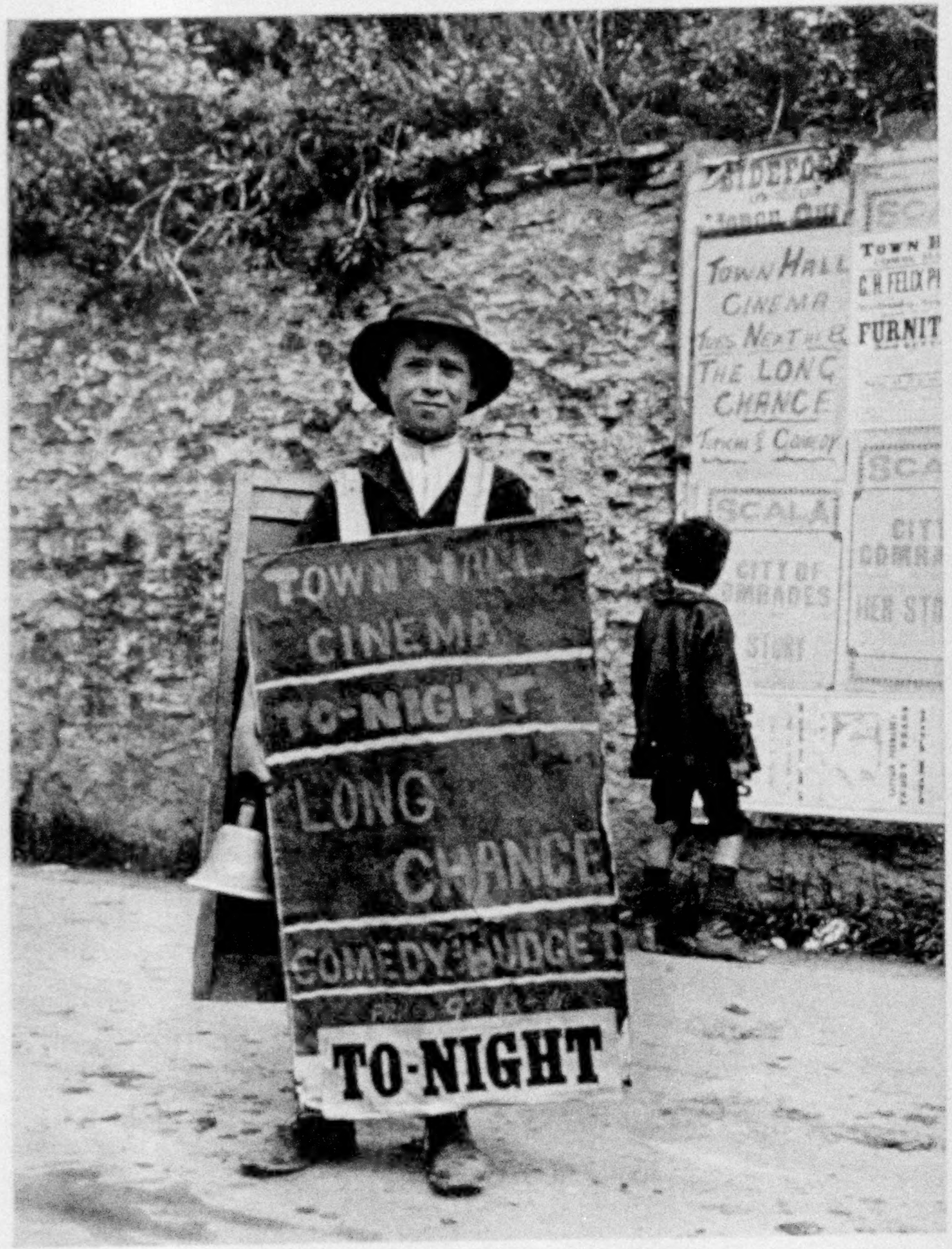
After a while I developed a theory to account for the impersonality with which the dealers told these stories. They regret, but do not mourn. The man by the road has become cynical. If another great house has fallen—well, great houses are always falling.

It is the men who have done things who are remembered in Devon, not merely those who bore great names.

DEVON'S EVENTFUL PAST

For Devon is soaked in English history. On its moors are traces of a people who lived during the Ice Age somewhat less comfortably than did Eskimos 200 years ago. Iberians came and were trampled under by the Celts, and Saxon thanes took over and later knuckled under to the Normans. The French burned Devon's towns, Spaniards raided its coasts, and Danes ravaged its villages. Devon's men played their parts in England's civil wars. The sturdiest seafarers sailed from Devon's coasts. Her golden age was the golden age of England. Elizabeth said of her men: "All born courtiers with a becoming confidence."

William of Orange was welcomed at Brixham Quay, and the tiny cottage in which he held his first assembly may still be seen in a lane at Stoke Gabriel. General Monk was a Devonshire man and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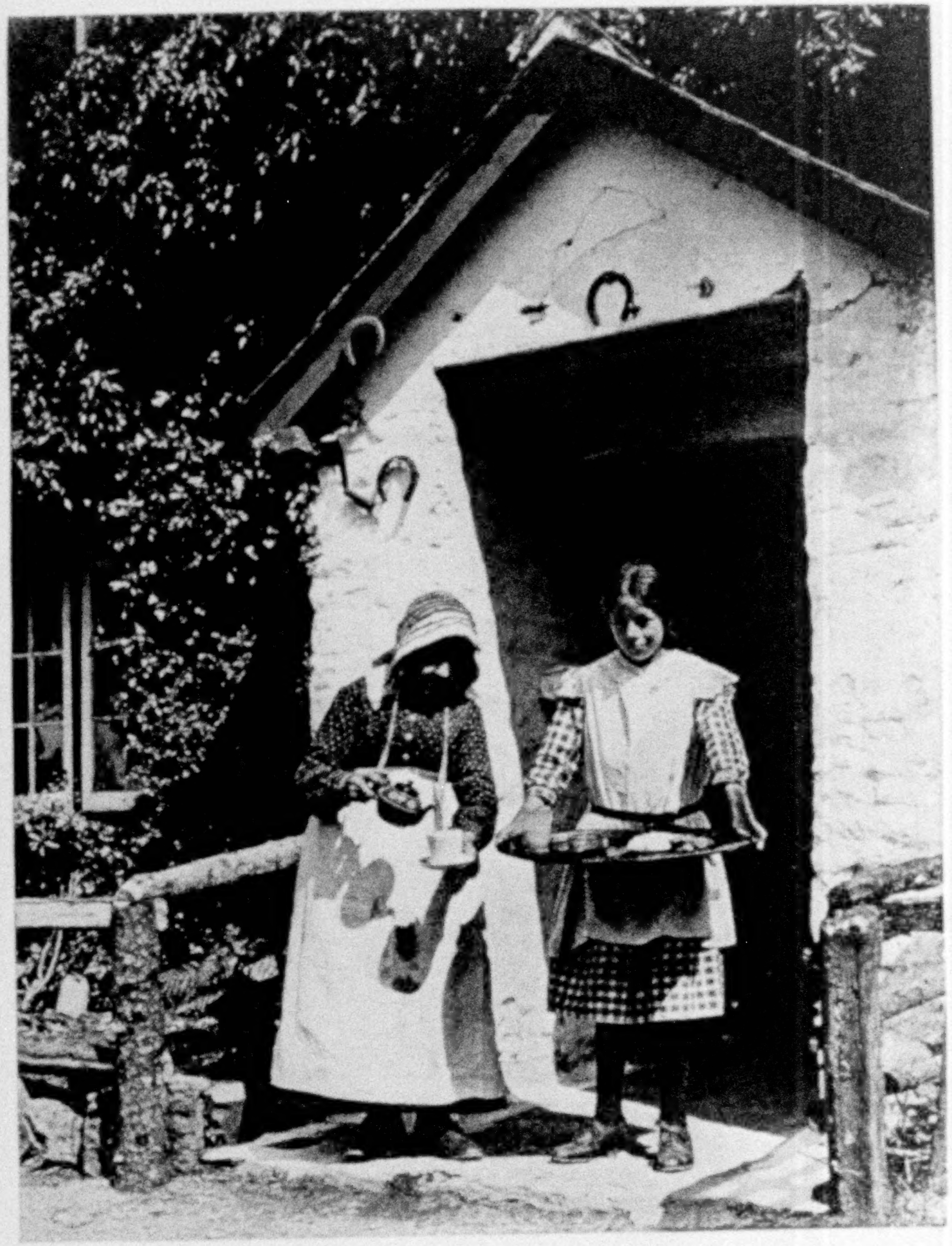


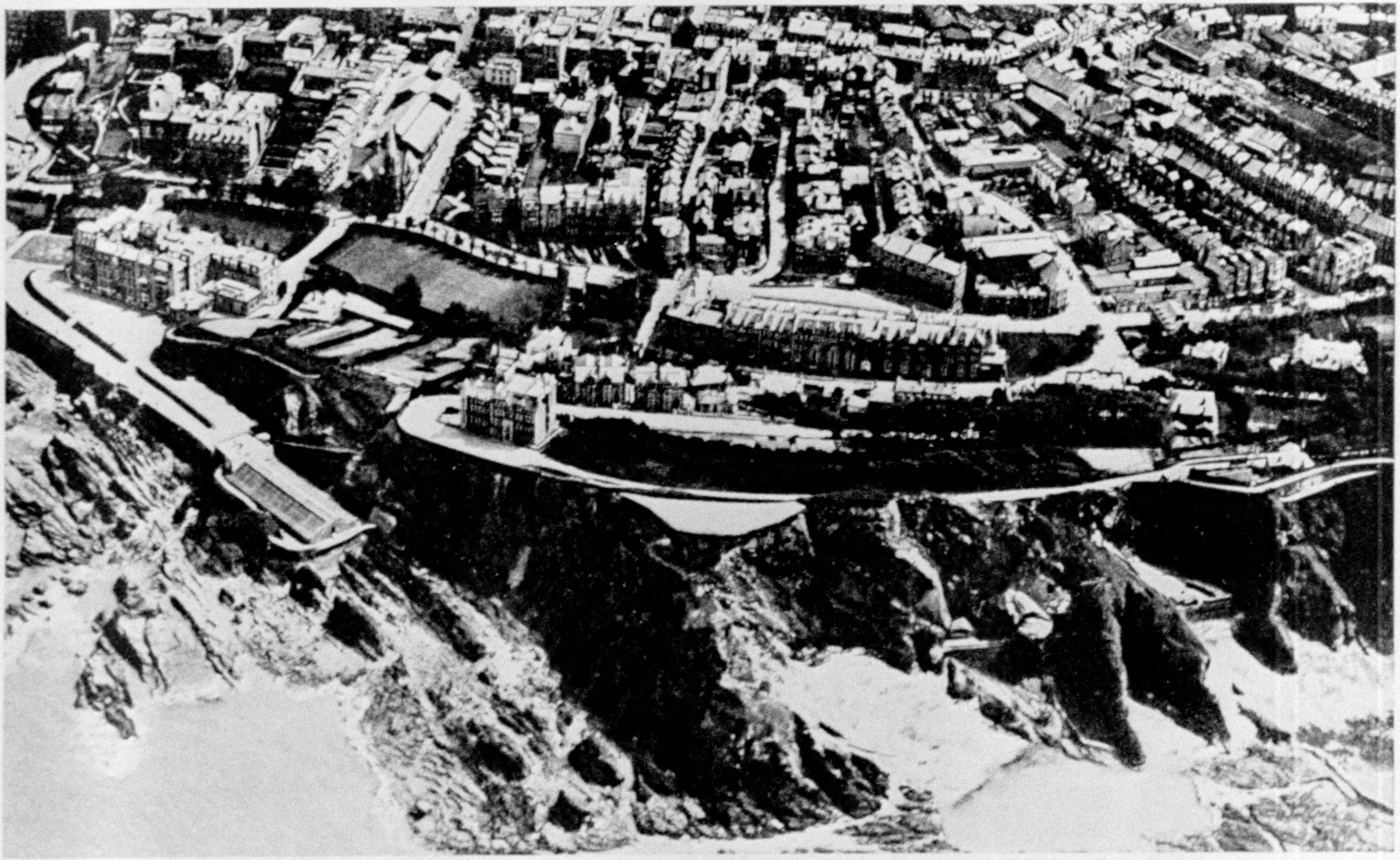
Photographs by A. W. Cutler

A "SANDWICH" BOY ADVERTISES THE THEATER

Attractive features of the cinema program are brought to the attention of Combe Martin villagers in a manner that is somewhat reminiscent of the ancient town crier.

JOHN RIDD'S MOTHER OFFERED SUCH HOSPITALITY

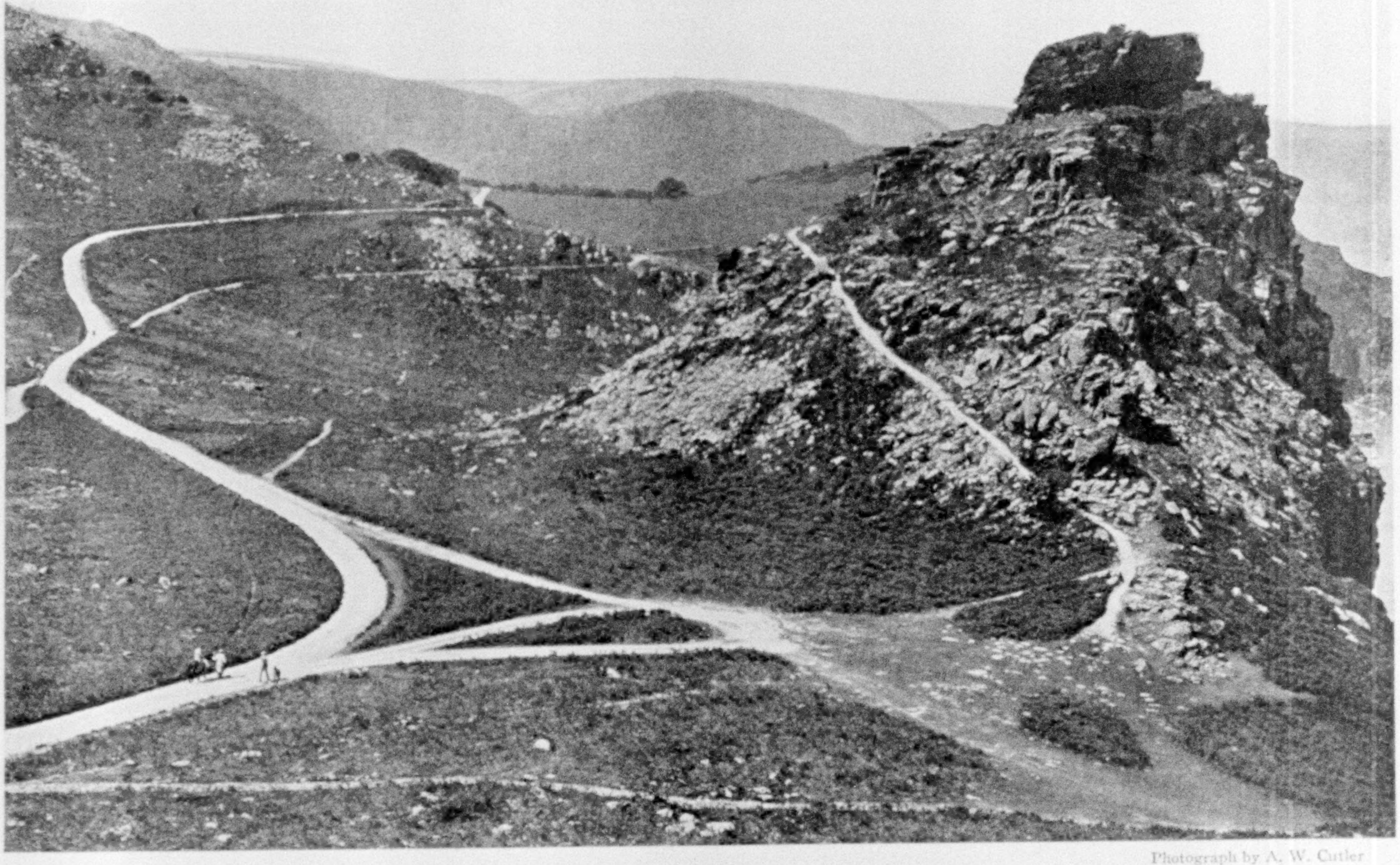
Tradition still lives in the Doone Valley, and the chance guest is sure of a warm welcome and tea with Devonshire cream—an experience not to be forgotten (see pages 548 and 549).



Photograph from Aërofilms, Ltd.

SEVENTEENTH-CENTURY CORSAIRS MENACED ILFRACOMBE

In 1625 the Mayor of Bristol reported to the Council that three Turkish pirate vessels had taken the Island of Lundy and carried off the inhabitants to sell as slaves, and that they were threatening this north Devon stronghold, which is now a popular seaside resort. The town is mentioned in the Domesday Book as Alfreincombe and is traditionally said to have been so named because Alfred the Great lived near it.



Photograph by A. W. Cutler

WILD AND BARE IS THE VALLEY OF ROCKS

Some of the finest scenery in the British Isles is to be found in the rugged country between Lynton and Lee Bay, Devonshire. Near the entrance is the enormous Castle Rock and opposite it the Devil's Cheesewring and Mother Meldrum's Cave, where John Ridd consulted the witch.

THE CONVICT SETTLEMENT AT PRINCETOWN LOOMS COLD AND FORBIDDING (SEE TEXT, PAGE 563)

Photographs by A. W. Cutler

ON HISTORIC PLYMOUTH QUAYS BUSY WORKERS CLEAN DOGFISH

A settlement along the shores of Sutton Pool, a creek of the Catwater, was the beginning of this famous city. The harbor is still lined on two sides with landing places paved with ancient stone blocks, upon which trawlers discharge their cargoes and sell them on the spot. From the Barbican, in the southwest corner of the Pool, the Pilgrim Fathers set sail in the *Mayflower* for America (see text, page 550, and illustration, page 564).

Photograph by A. W. Cutler

COCKINGTON COUNTRYSIDE IS OLD WORLD AND UNSPOILED

One of the chief charms of Devonshire is the narrow, high-banked lanes which intersect the country in every direction (see text, opposite page). At such a gate Alan-a-Dale might have kept tryst with Maid Marian.

Photograph by A. W. Cutler

WINDING WOODLAND PATHS LEAD DOWN TO FINGLE BRIDGE

Entrancing Devonshire abounds in places of sylvan delight. Going down this steep way, passing through the gate at the bottom of the field, and turning to the right, one comes upon a rustic arch that spans a purling stream.

commanded the army which brought about the Restoration. There are gibbet hills on her moors where the quartered bodies of rebels, sheep stealers, and highwaymen were exposed.

Devon's huge hedges are reminders of the time when there were immense mounds of earth and stone that converted the fields into fortresses—fortresses against the deer. The deer might safely eat the peasant's crop, but if the peasant ate the king's deer he hung in chains.

A SAD REFRAIN: THE NARROW LANE

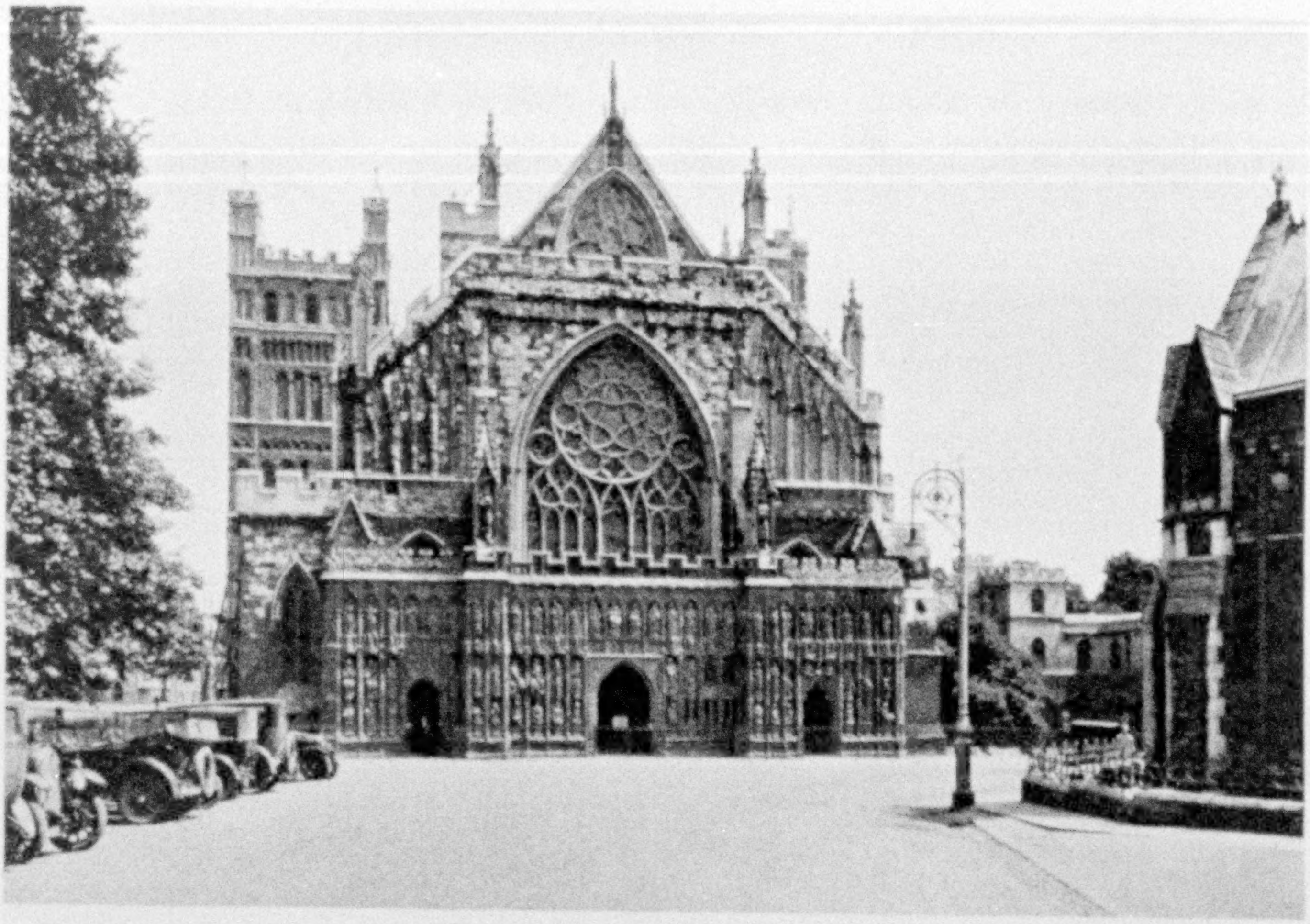
The author of "Lorna Doone" has called Devonshire "the fairest county in England." That shall be taken as warrant if my praise seems at times intemperate.

Yet a plaintive strain runs through the notes of our motor tour. We rejoiced in the forests of ferns, the roses that bloomed in the hedgerows, and the gorse and furze that sparkled on the gray-green moors. Poppies flamed by the roadsides. Dark woods hung over black waters. The white fire of surf ran under tall cliffs; yet through our hasty pencilings, punctuated by fruitless efforts to find some new way in which to say "lovely," runs a recurrent sadness:

"The *narrow* lanes." Narrow heavily underscored. "The sheep."

We ceased to marvel at Devon's heroes—Raleigh, Drake, Hawkins, Grenville, Gilbert, and the others. No wonder they ripped around the world, burned ships, took gold plate and diamonds. Any man who can safely navigate Devon's lanes is qualified to be a master mariner. No wonder that William McFee wrote of them: "Their ships were small, but the West countrymen had cool heads, strong hearts, and loud, roaring voices."

For we drove in fear of chars-à-bancs. Pronounced *charrybang*, for the most part. They rumbled down the roads and tossed



Photograph by Clifton Adams

EXETER CATHEDRAL IS THE GLORY OF THE WEST COUNTRY

Set on a hill in a spacious and delightful close, this architectural masterpiece, built in the earliest and purest Decorated style, save for its Norman towers, Perpendicular East Window, and West Front Screen, dominates the city (see, also, text, page 568).

our little car aside like a chip in a bow wave. Much of our driving, it seems in quite inaccurate retrospect, was in second gear. When we were not blindly diving between tall hedges, down hills with hairpin turns toward cockeyed ditches and flocks of sheep, we were howling up again in low. In the end, gradients lost their terror. It was the narrowness that affrighted.

THE STEEPER THE HILL, THE SLIMMER THE ROAD

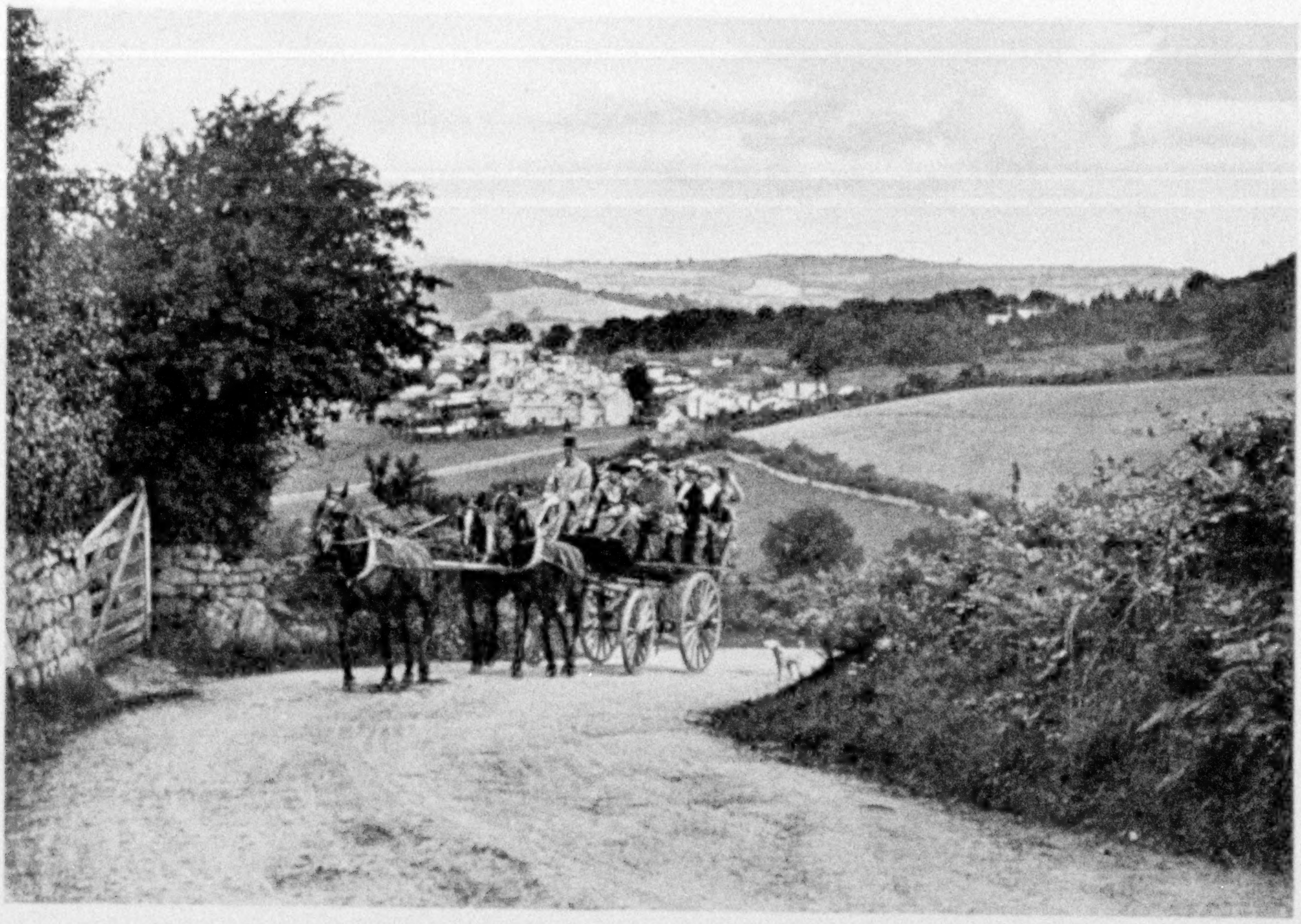
A fine old natural law works in Devon, and the steeper the hill the slimmer the road. These lanes were made for one-horse carts. When one one-horse cart meets another one-horse cart, the drivers light their pipes and pause for a chat, sitting sidewise on the shafts. On either hand the grassed and flowery banks rise high above their heads and branches meet over all. Then one horse haws and the other gees, and somehow the carts maneuver past.

It isn't so easy with an automobile, even of the depressed and lowly form of ours. Paint is to be considered and the splashers. A splasher is a wing. Now you know.

And always the sheep!

HISTORY LINKS DEVON WITH AMERICA

Nothing in animate nature is so profoundly misunderstood as the sheep. He conceals a malign disposition and a baleful energy under the cloak of innocence. Because his voice seems the audible expression of a mental vacuum, an ill-informed public demands pardon for his malicious sins. Many times flocks of sheep, chaperoned by despondent men and cynical dogs, filled the narrow lanes. Invariably they wove themselves into a dense fabric, from which rose fat heads illuminated by bright and vicious eyes. Only by a rigidly retained calm could the guardians edge them to one side, that the car might pass. To the final second, there was the danger that a spiteful animal might crawl beneath the wheels.



Photograph by A. W. Cutler

TRAVELERS RIDE UP MELDON HILL AS IN DICKENS'S TIME

From Chagford, seen in the background, coaches still run on schedule over Dartmoor. It is claimed that this is the only place in this part of England where the quaint horse-drawn vehicles remain in regular service.

Do not misunderstand me. The roads between the lanes were wide and numerous. If the hills were steep there was no mud under wheel. We were in high ecstasy throughout the tour. Apart from its beauty—Blackmore was not half enthusiastic enough—an American may claim a special interest in the fine old shire. Cockeram walked on Plymouth's Hoe before sailing with John Cabot in 1497. Out from Devon waters Sir Francis Drake sailed to "singe the beard of the King of Spain"; on that memorable voyage in which he took possession of California for the English crown, and, later, when he rescued Raleigh's year-old Virginia colony. It was from Plymouth that he sailed to break the Spanish Armada and shape the course of empire and the world.

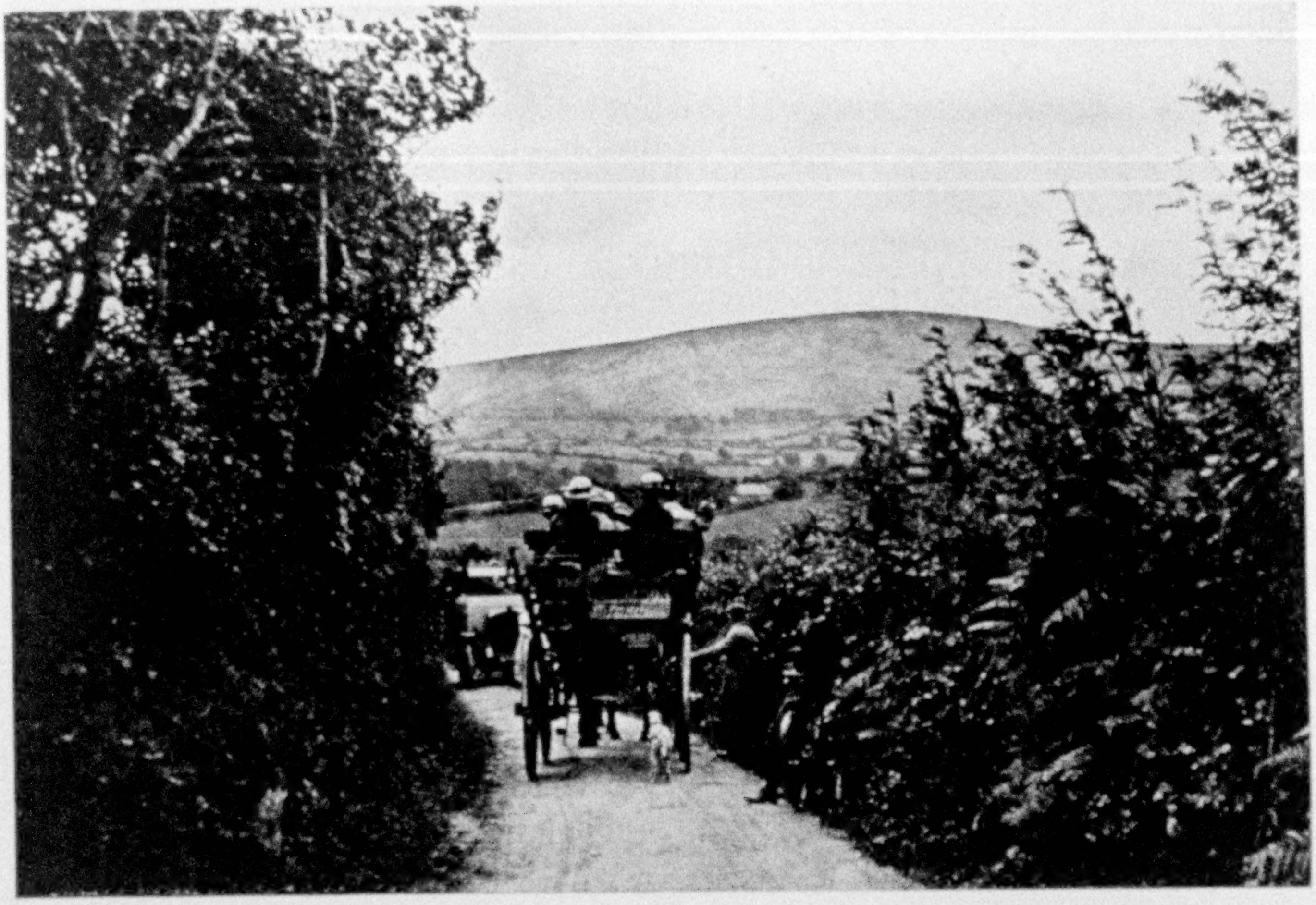
One may still have pointed out on a hill above the lovely River Dart the site of Greenway House, opposite Dittisham (see text, page 556), where Raleigh may have smoked the first pipe of tobacco in England. Here he lived with his step-brother, Sir Humphrey Gilbert, who planted the first English settlement in Newfoundland.

It was from Devon that Sir Richard Grenville sailed to the most colorful sea fight in history, when in the *Revenge* he fought the Spanish fleet and sank four ships. Then, as he lay dying, without an ounce of powder left, he ordered the timbers to be hewn open that he might sink unconquered.

Martin Frobisher's entrails are buried in St. Andrew's Church, in Plymouth—Frobisher, explorer, adventurer, mighty sea fighter, who was the first Englishman to give national character to the search for a northwest passage to Asia.

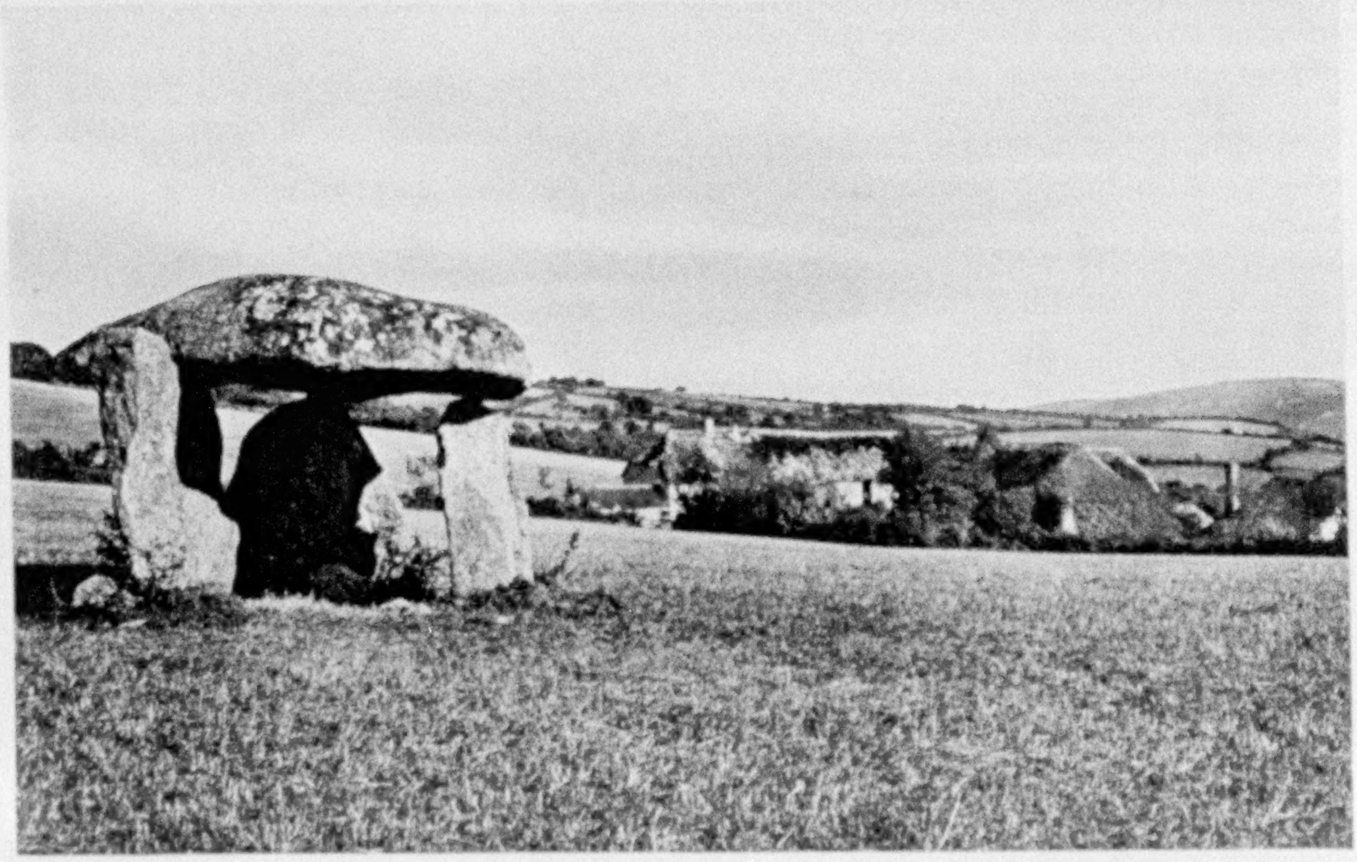
Brave, worshipful, cruel men. Their memories live to-day in Devon.

Fletcher of Rye had invented the fore-and-aft rig. This enabled the Devon men to tack against the winds which held their enemies almost helpless. A swarm of hawks was thus let loose in the world's henyard. Merchant seamen then were part adventurer, part trader, sometimes slaver. England's navy hardly existed. A great



ROADS NEAR CHAGFORD ARE OF ONE-WAY WIDTH

On a Devonshire lane there is likely to be a wordy duel when a motor char-à-bancs and a coach, the new and the old way of seeing far-famed Dartmoor, come to grips. The dispute in this instance was settled by compromise, the bus backing to a point where a gate let the horse-drawn equipage turn aside into a hayfield.

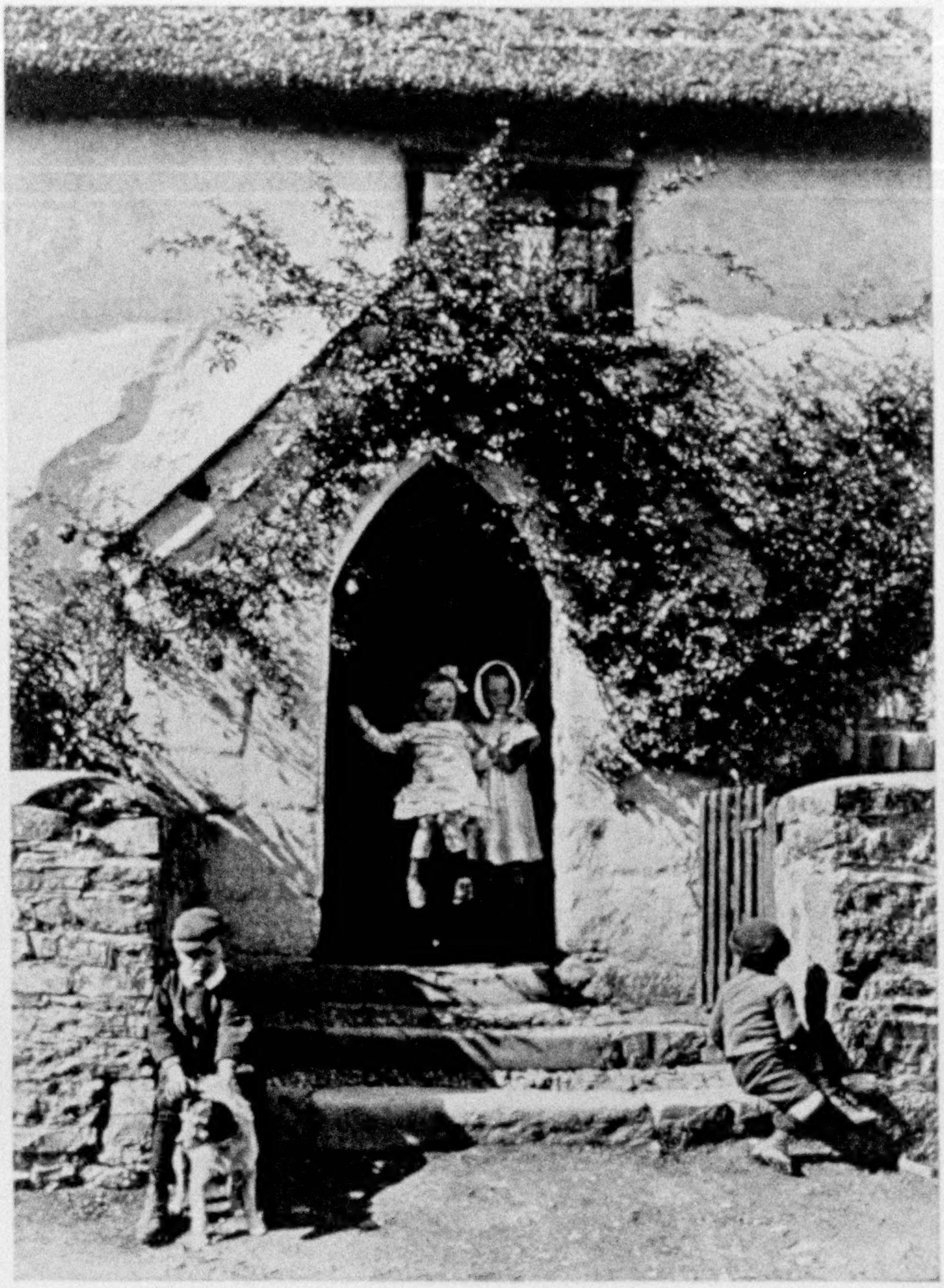


Photographs by A. W. Cutler

RELICS OF THE EARLY BRONZE AGE STILL STAND

Near Sandy Park, Chagford, this ancient cromlech, one of a very few remaining, reminds the traveler of people who lived on Dartmoor thousands of years ago. An amazing wealth of antiquities has been found in this treeless part of Devonshire, which, curiously, is known as the "forest."

part of the flotilla which defeated the Armada was privately owned.



Photograph by A. W. Cutler

CHILDREN OF MANY GENERATIONS HAVE PLAYED HERE

These Drewsteignton little folk are enjoying the sunshine of a summer day at the entrance of their home, a cottage that probably has changed little since their great-grandparents romped about its ancient stone steps (see, also, illustration, page 563).

SEEING DEVON BY AUTOMOBILE

Not only did the automobile prove to be the most satisfactory way in which to penetrate Devon, but it was the least expensive. One gets nowhere on the railroads; rather, one is compelled to supplement them by hired car or char-à-bancs. A previous experience in seeing Cornwall from the deck of a char-à-bancs convinced us that while this method has its pleasing aspects, it also has drawbacks.* A full day's ride for the pair sometimes came to $15. For that sum we could have ridden indefinitely in the little car. We saw a Devon the "charrybangers" never see, too.

Devonshire is the third largest county in England. Its actual coverage is 2,604.9 square miles, which is very little larger than Delaware. In physical characteristics it is persistently hilly, with the exception of the silted estuaries, and is for the most part fertile. Between the two lofty wastes of Dartmoor in the south and Exmoor in the north, the country is broken up into irregular ranges of hills, which have been compared to a choppy sea suddenly stilled.

The visitor is offered his choice of coast scenery, the moors, the South Hams, and the cities. A glance at our chart shows that we traveled almost every road in Devon. At first we had no more system than our ragged companions of the road, who tramped doggedly toward free meals and away from baths, but later we learned to employ a fine leisure. There is a soothing balm in Devon's air. "No Devonshire man," reported girt Jan Ridd, "ever thinks of working harder than his Maker meant for him" (see, also, map, page 532).

ENGLAND'S OLDEST MUNICIPALITY?

It was in Totnes that comprehension came to us. Totnes is, perhaps, the first municipality to be created in England. Its mayor claims precedence over the Lord

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* See "A Char-à-bancs in Cornwall," by Herbert Corey, in the NATIONAL GEOGRAPHIC MAGAZINE for December, 1924.

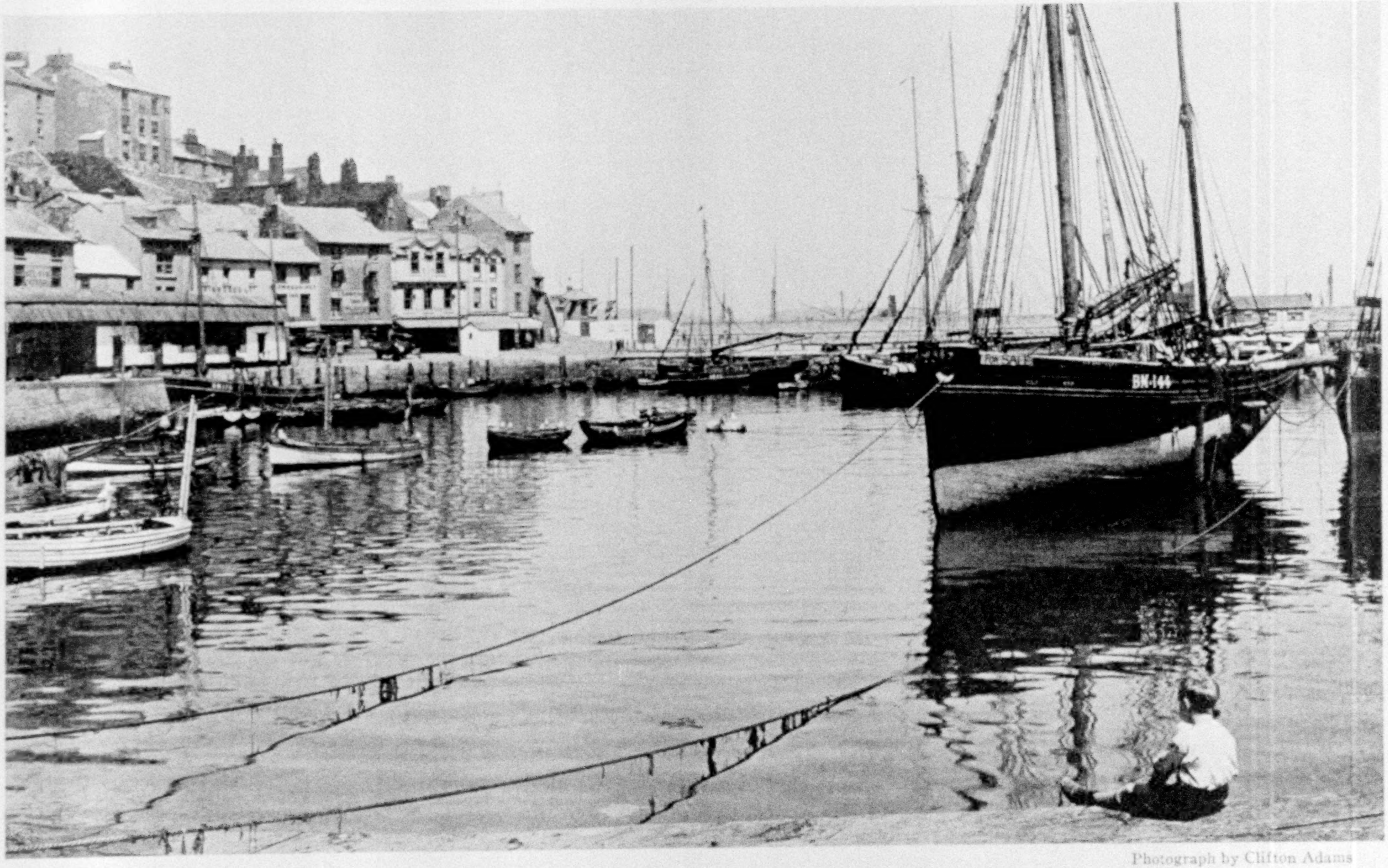
TOM, THE MILK BOY, MAKES A FEMININE HEART FLUTTER

Rustic steps leading to a vine-shaded doorway give a charming Old-World touch to this time-mellowed cottage at Berrynarbor, in north Devonshire. Here life is quiet and leisurely.

Photographs by A. W. Cutler

BERRYNARBOR CHURCH SHELTER IS A SNUG STORY NOOK

One can picture Giles of old exchanging experiences with his smocked cronies in this venerable resting place, for the spot has a rich flavor of romantic antiquity.



Photograph by Clifton Adams

BRIXHAM DWELLERS LIVE BY PLYING FISHING CRAFT

Unlike many pleasure resort places on the south Devon coast, this town relies for its income upon its old-time industry. It was here that William of Orange landed with his Dutch troops on Guy Fawkes Day, 1688, to lead the "Glorious Revolution" (see, also, text, pages 533 and 567).

Photograph by A. W. Cutler

BRINGING HOME THE COWS IS A SUMMER'S EVENING JOY

Murchington, in central Devonshire, enjoys pastoral delights beside the little-trodden ways, like "Sweet Auburn, loveliest village of the plain."

Mayor of London, and when he issues a proclamation he stands upon the Brutus Stone, on which Brutus of Troy stood when he sailed up the River Dart and rhymed:

> "Here I am and here I rest,
> And this town shall be called Totnes."

Geoffrey of Monmouth himself is responsible for this tale, and any one who can come to Totnes in the peace of a summer evening, as we did, will prefer old Geoffrey to the sneering moderns who maintain that the Bruiter's Stone is merely the platform from which the town crier dispensed his wares. I'll never believe them. Totnes is dear to my heart.

For here is an arched gate over the one long, steep, anciently cobbled street on which men at arms once stood; a tiny guildhall which should serve as the model for all guildhalls to come; stocks and a mantrap which remind us that our forefathers were hard men; and a ring to which has been tethered many a red bull for the dogs to harry. The mayor and corporation still use the fine old oaken stalls in the council chamber with the date of 1624 over the fireplace.

WHERE WALKS ENGLAND'S SWEETEST GHOST

Through lanes that are narrow, steep, and fragrant, one goes to Berry Pomeroy Castle, about four miles from Paignton (see text, page 566), where walks "the sweetest ghost of England." "Her sister was jealous of her," said the pretty caretaker, "and locked her in this dungeon."

We peered down the winding stair at the dark hole under the Sisters' Tower. The jealous sister occupied the quarters overhead and had but to put her ear to the oaken door to hear her sister sob. On moonlit nights the slender wraith of a lovely girl walks these ruined battlements and at a distance spies the dark sister who hated her. "Of course, I have not seen her," said the pretty caretaker. "No one would dare come here at night."

Here is a wishing tree, too. If you walk around that tree backward seven times, the dearest wish of your heart shall be granted. In no case has the wisher

Photograph by A. W. Cutler

ROCK SCENERY ABOUNDS NEAR COMBE MARTIN

Children enjoy a ramble along the rugged shore not far from Ilfracombe. In the background to the left upthrusts the famous Little Hangman Hill (see, also, illustration, page 533).

been disappointed, for the tree stands on the edge of a most unpleasant hill, and even a hero must find his dearest wish to be for an unbroken neck.

Here are chimneypieces in which oxen were roasted whole when the Pomeroys held the castle for the Conqueror, and the cliff over which one lord of the castle spurred his horse to escape the pursuivants sent by an angry king, and so died.

Even so, the secret of our liking for Totnes has not been revealed. We were dull with fatigue when the little car slipped down the one steep street and paused at a tea house which displayed fine brasses and pewters in the window and was presided over by a haughty maiden. "It was once the town house of our family," she said, "500 years ago."

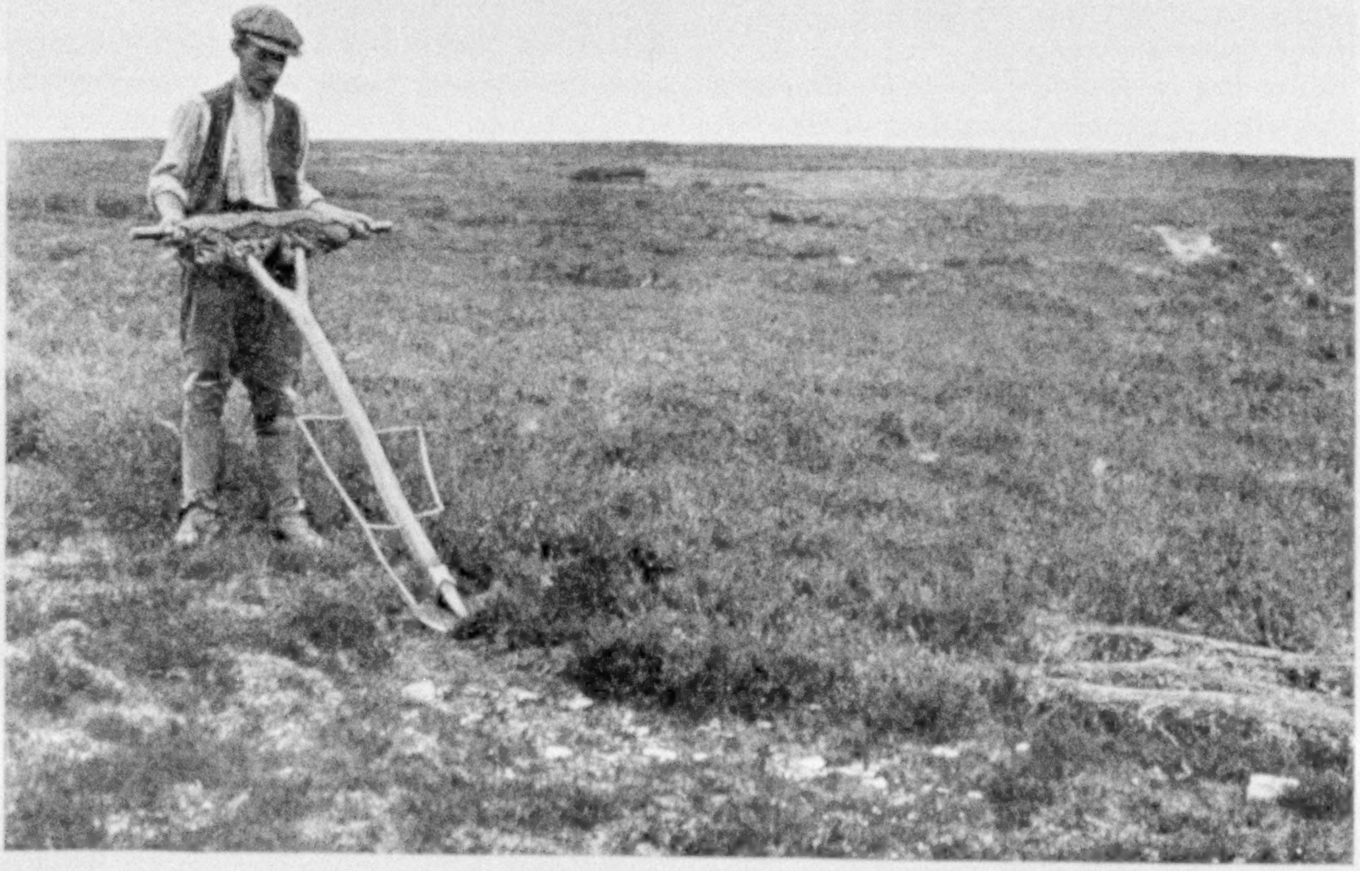
A tiny garden twinkled with old-fashioned flowers and we sat with our knees quite in an old-fashioned fireplace, for Devon evenings are cool to outlanders. After we had been restored we were directed to an old-fashioned inn on the bank of the River Dart. It was the kind of inn one hopes to find and so rarely does, lying just below the arched bridge through which the Dart purrs at high tide and splashes with a mighty fuss when the tide is out. It had a lawn on which one sat beneath ancient yews and somnolently watched the operations of benevolent wasps.

In the brown water which rises within a foot of the top of the river wall at high tide two stately white swans swam and cadged for goodies. At their tails maneuvered in meek formation five spiritless gray cygnets, who also panhandled for their daily bread. Time after time the little family paddled through the arches of the bridge, and sometimes were swept down again when the current ran brisk from Dartmoor overhead, and the fine old gentleman careened like a Devon frigate in the good old days. Life was very sweet.

The hairdresser, however, brought in an adverse report in a moment of dejection. Devon people, he said, were not sufficiently prodigal. The day previous a sheep farmer had come to him with a six months' crop of hair hanging low on his shoulders. "I gave him a very excellent

HERE "GIRT JAN RIDD" LIVED AND LOVED

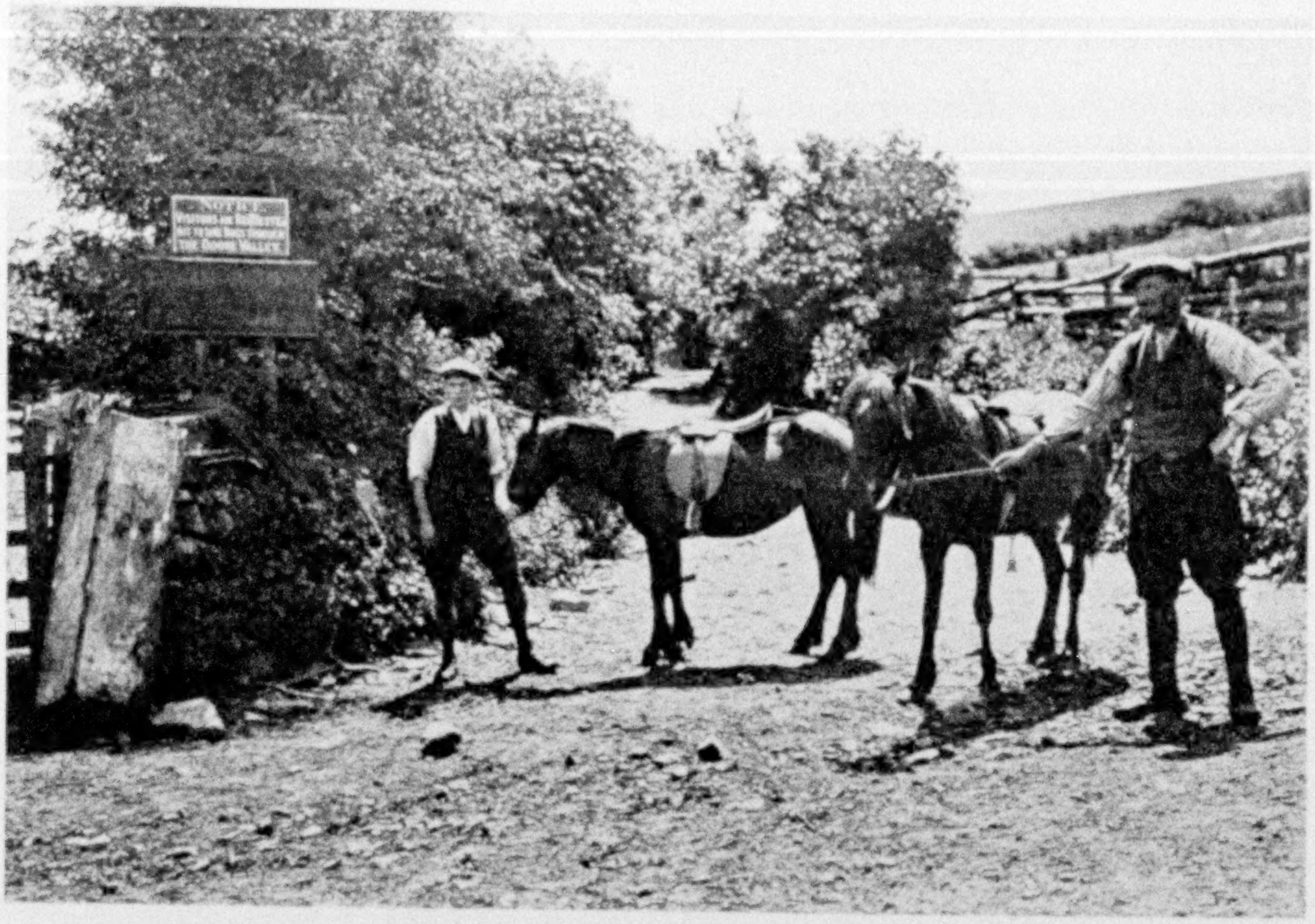
From Malmsmead there is an excellent view of Doone Valley. To-day the only habitations in the place made immortal by Blackmore's famous romance, "Lorna Doone," are an ancient shepherd's hut and an old farm (see, also, illustrations, pages 534 and 549).



Photographs by A. W. Cutler

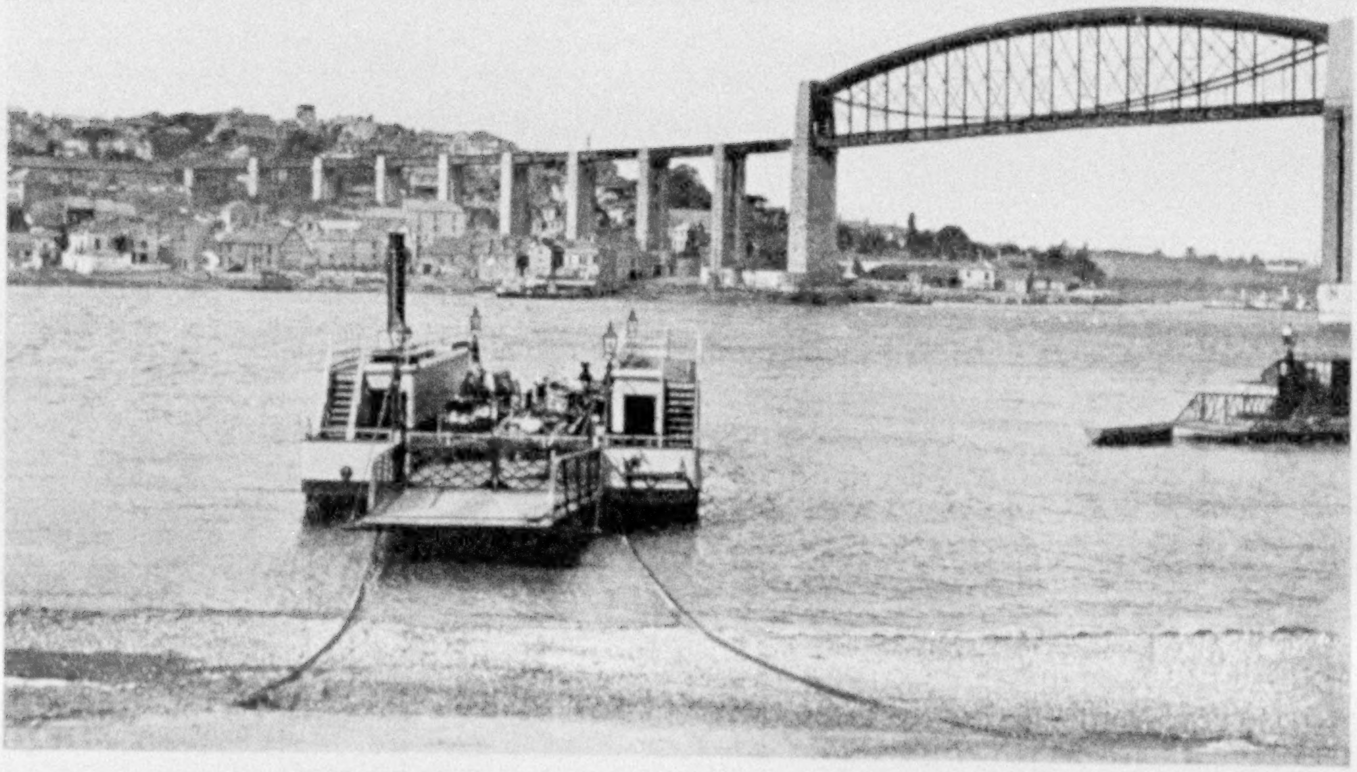
SOD IS CUT BY HAND ON EXMOOR

Some sheepshearers in this part of Devonshire heap upon large barn floors long strips of turf thus laboriously procured and drive their flocks through them to cleanse the wool before it is clipped.



DOONE VALLEY PONIES ARE FAT AND HAPPY

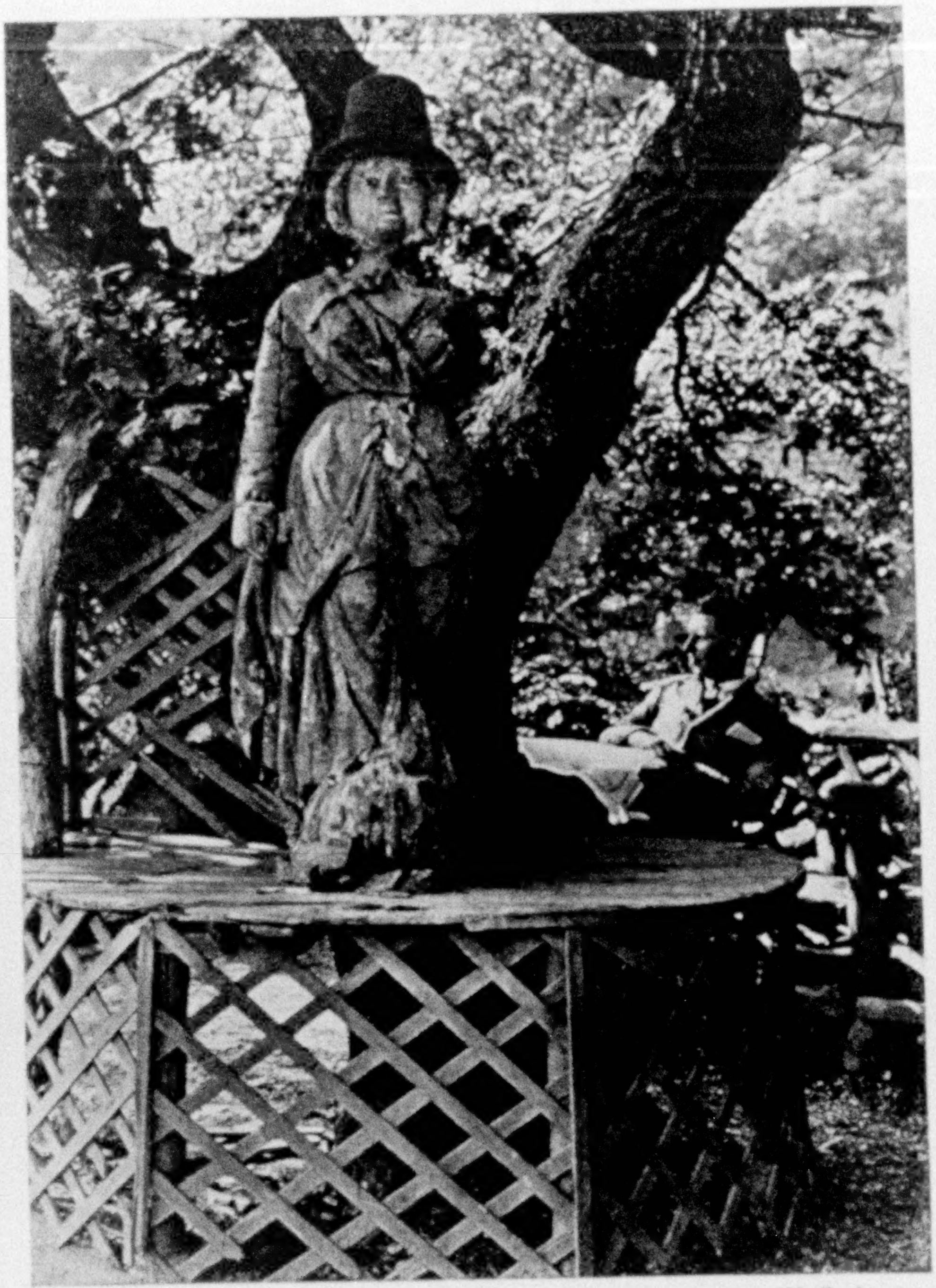
Unlike the spirited mare of Tom Faggus in the story, these little fellows, kept at Malmsmead for hire to tourists, lead a lazy life. They are not much in demand, since it is only a six-mile walk to the scene of John Ridd's adventures.



Photographs by A. W. Cutler

AN OLD CHAIN FERRY STILL PLIES AT SALTASH

If the traveler is not in such a hurry that he must needs use the up-to-date bridge, he may have himself and his belongings set across the River Tamar in the time-honored manner by this quaint carrier, one of the few remaining in use.



Photograph by A. W. Cutler

STORMS TOSSED THIS LADY ASHORE 150 YEARS AGO

England was at war with the American Colonies when the ship's figurehead shown here was picked up on the beach at Clovelly. For a long time it remained in the possession of the family that found it, but recently it was purchased and set up in a tea garden near Lynmouth. The right arm is fastened to the body with large, rusty nails; the left is missing.

trim, and later on I swept up a basin of hair from the floor."

"'And how much moight that be?' asked the farmer.

"'Sixpence,' said I.

"'Well, me lad,' said the farmer, sourly, 'theer's a sixpence easily earned!'"

THE WHISHT HOUNDS HAUNT THE MOORS

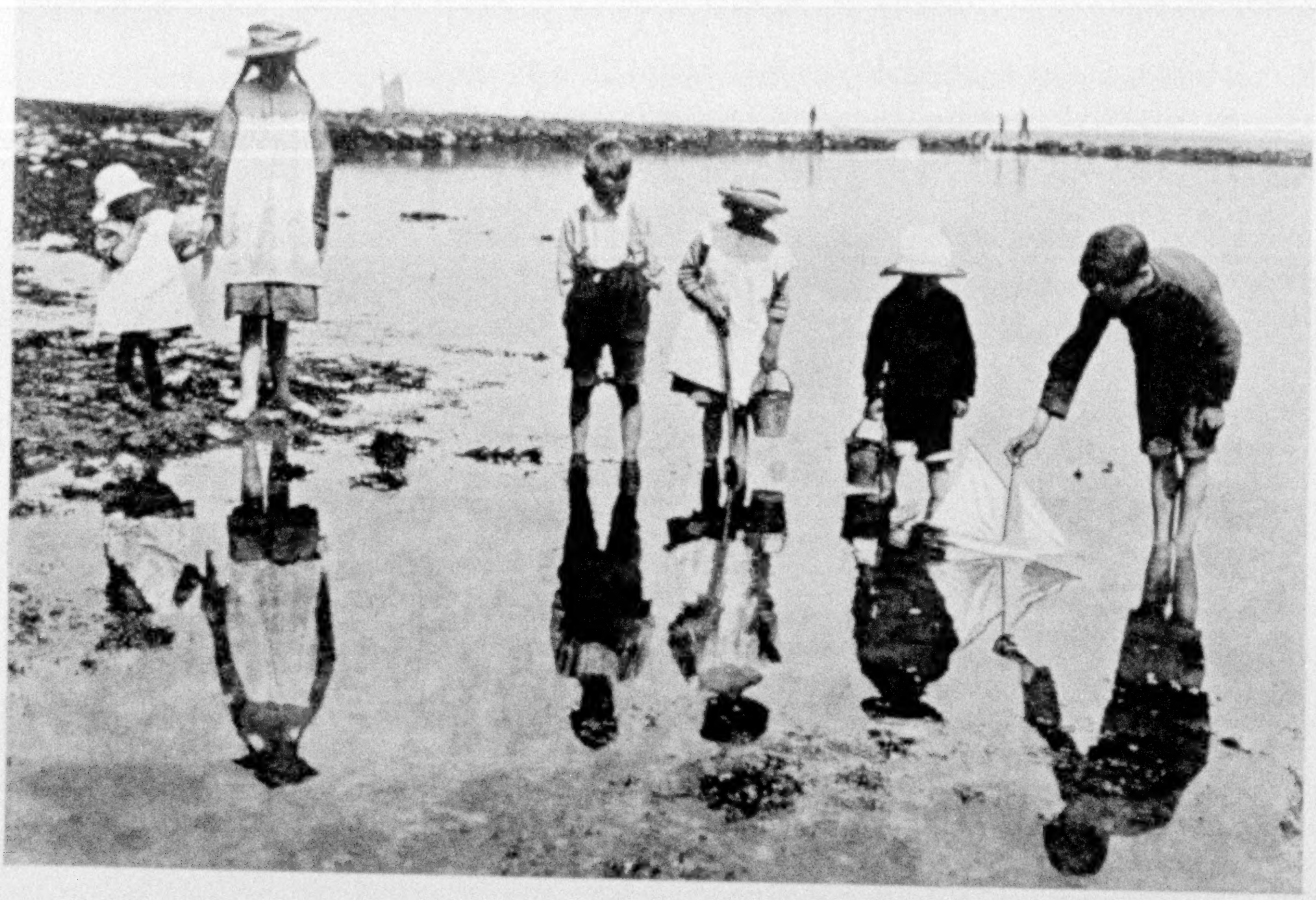
That night we listened to a dispute between the barmaid and an ancient farmer propped, mug in hand, on the black oak benches that ran around the walls of an old bar. "Whoy is it, miss," he asked sharply, "that my dawg will not go near the Sharp Tor? 'E runs and 'e 'owls. A good dawg 'e is, too."

Pixies were under discussion, for we were near enough to the moor to hear something of its superstitions. On its blowing uplands are great bowlders set in avenues by men dead so long that science has not named them. Huge stones are laid on other stones to bridge little creeks. Hut circles tell of savage villages, and in them may be found even yet the charcoal of the communal fires.

I do not hold greatly with ghosts, and blithely walk under ladders and laugh at the malefic thirteen; yet this is an old country and—I'll be truthful about it—I fear Dartmoor by night.

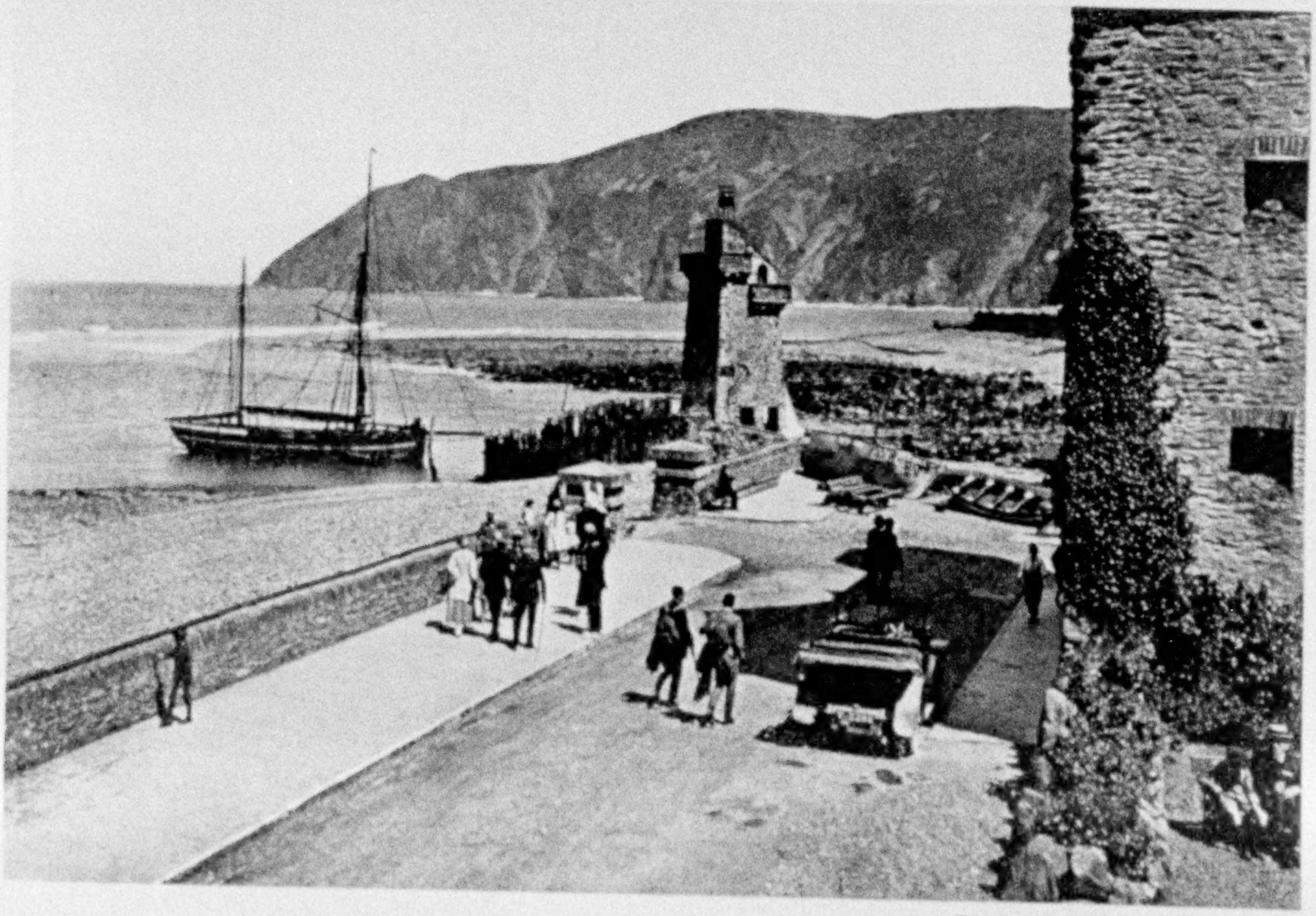
In the porch of the church at Buckfastleigh, Richard Cabell still rests, held down by a heavy stone. Over his tomb an iron cage was built by his neighbors to impede his possible return. For all that, the black whisht hounds hunt him over the moors on stormy nights. His voice has been heard shrieking for mercy. Some one's voice, at least, for he died two centuries ago and recognition might be difficult.

By day Plymouth bustles, a lively modern town full of crooked streets and business, a prosperous town, for it is the market place of the South Hams, which have been called the market garden of England. In the adjoining town of Devonport is England's mightiest navy yard.



POOLS LEFT BY THE TIDE BRING JOY TO YOUNG HEARTS

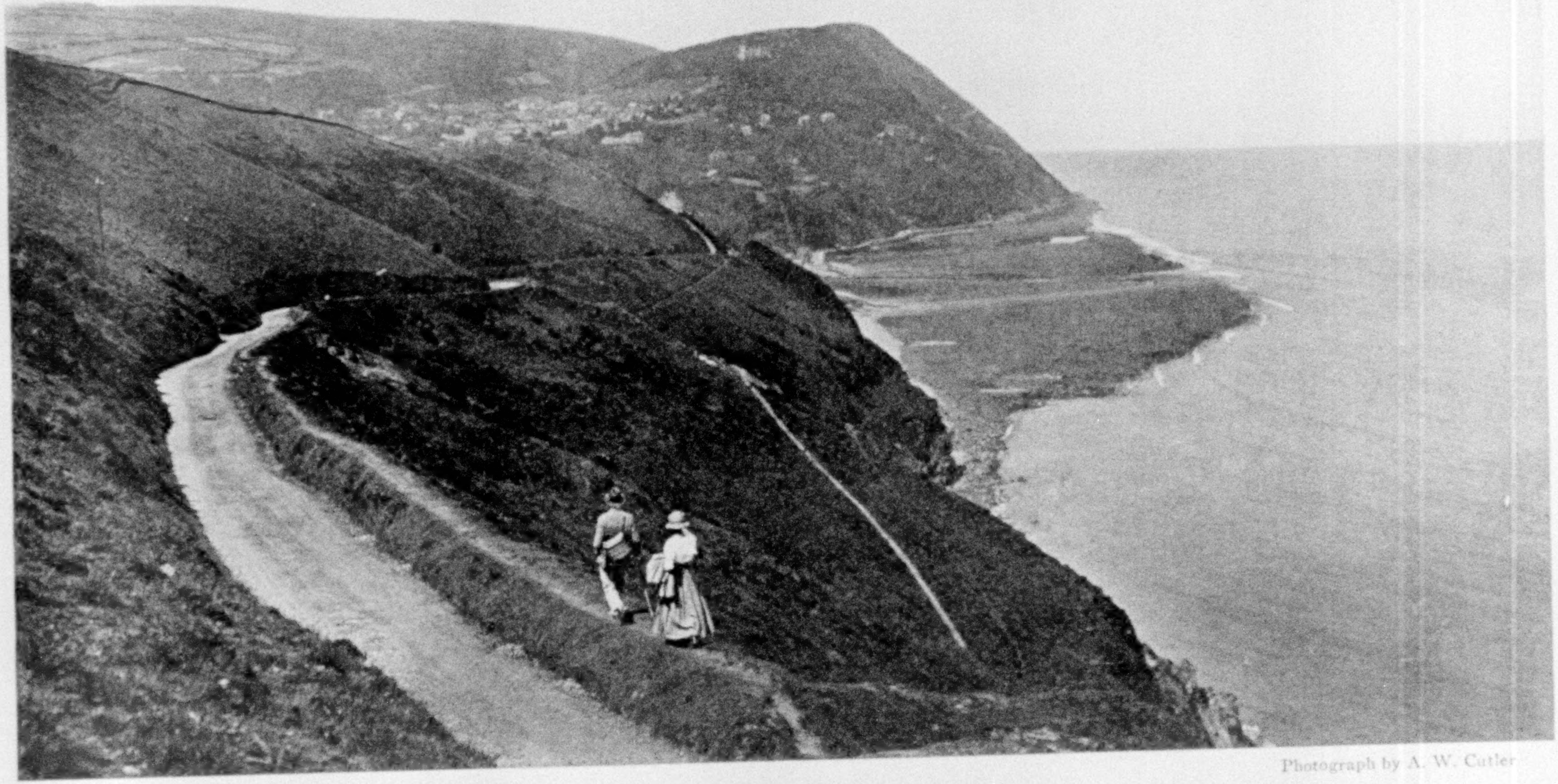
Achievements of the British Navy in the World War have created a boom in toy boats. These happy children of Lynmouth are too much interested in their yacht to notice their reflections in the still water.



Photographs by A. W. Cutler

A CENTURY-OLD TOWER MARKS LYNMOUTH HARBOR ENTRANCE

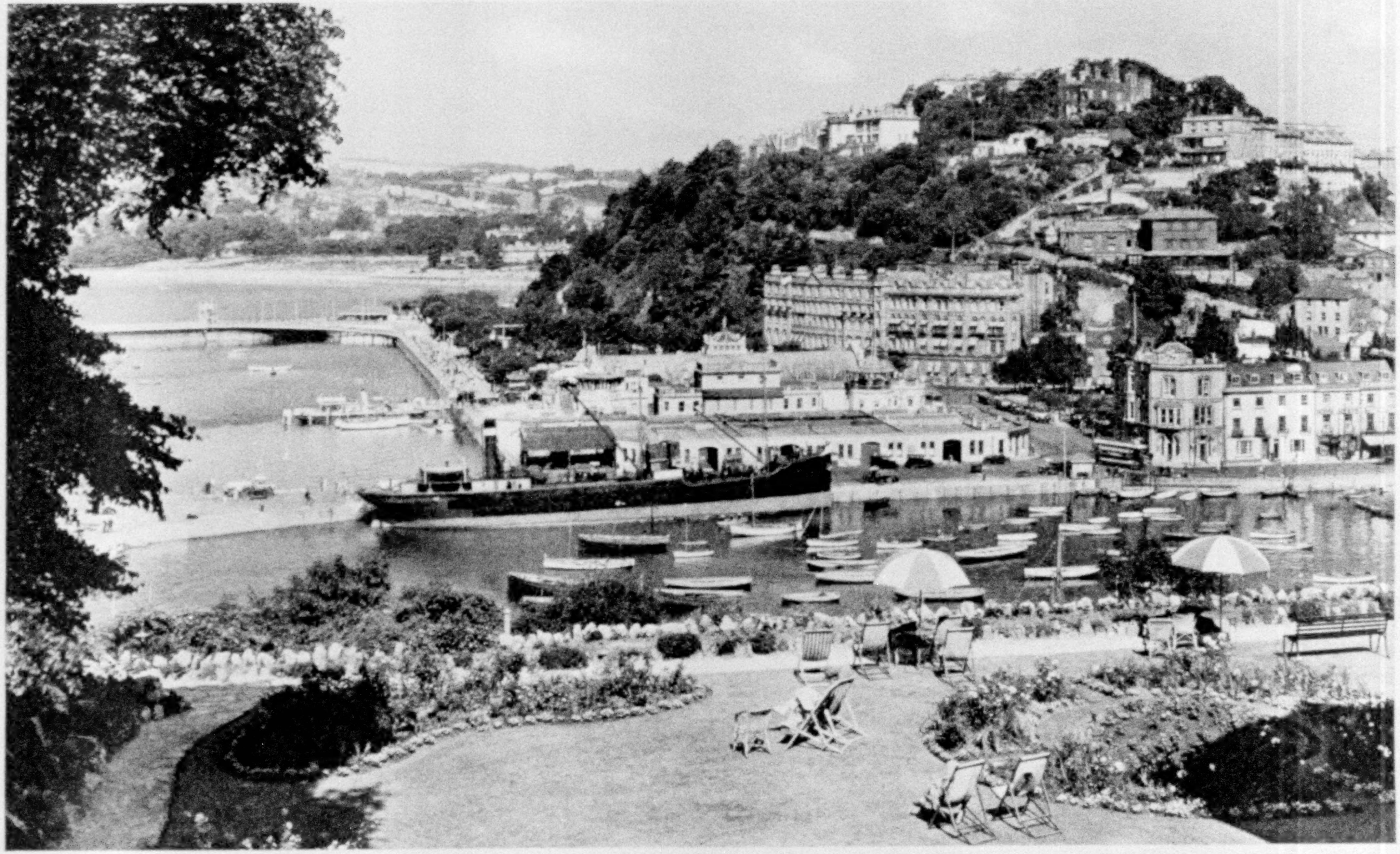
At night a lantern burns in the brazier which surmounts this ancient mariner's guide. The bluff in the background is Countisbury Foreland. Near the bus in the right foreground two young men with "packs of peace" on their backs are equipped for a foot tour.



Photograph by A. W. Cutler

COUNTISBURY HILL IS A DELIGHTFUL PLACE FOR A HIKE

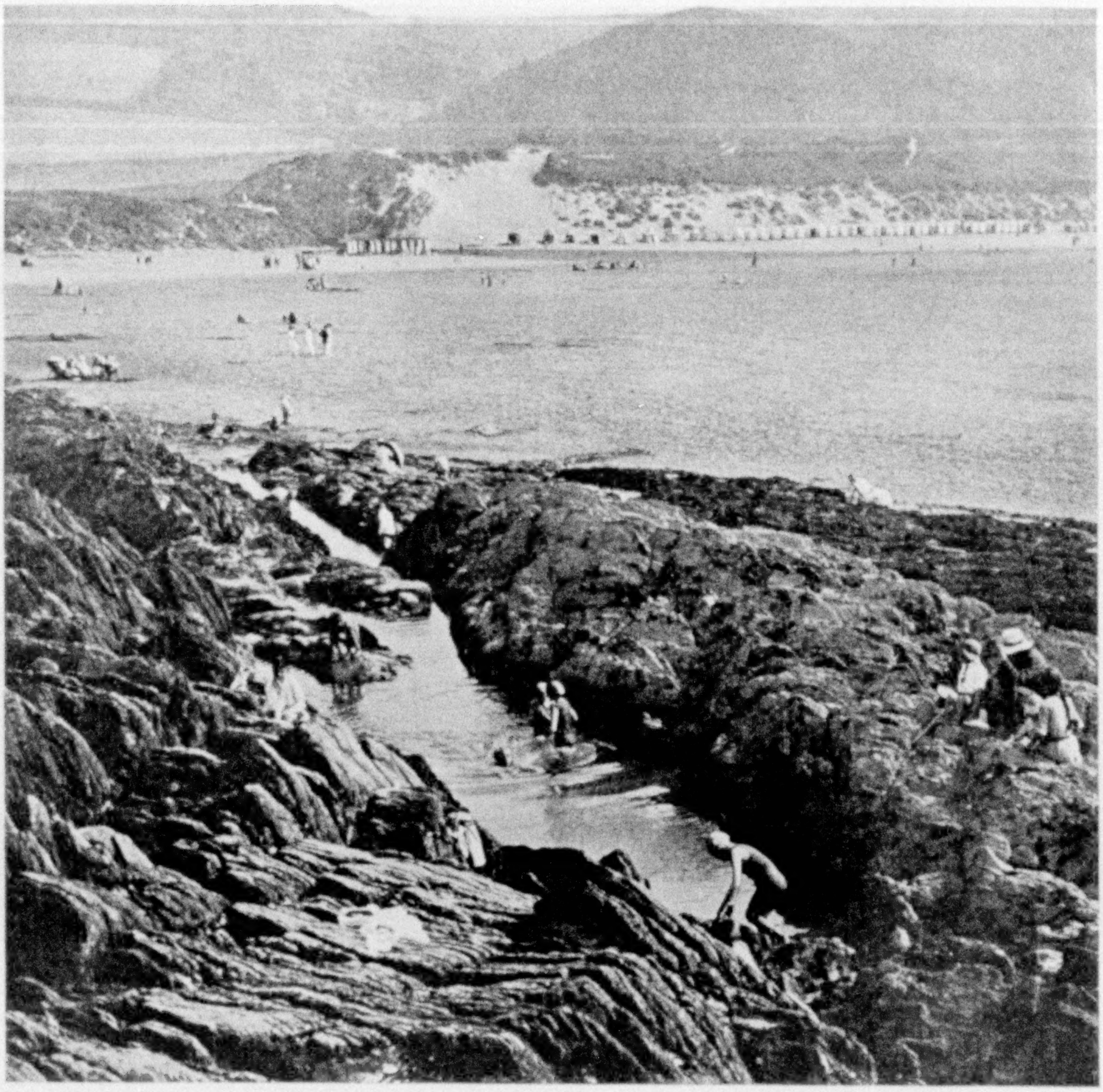
The twin villages of Lynton and Lynmouth, miles of rugged coast, and the gleaming reaches of the sea charm the eye of the foot traveler who pauses here (see, also, illustrations, pages 530 and 551).



Photograph by Clifton Adams

TORQUAY IS BUILT ON TERRACES OVERLOOKING TORBAY

Gazing down on the port from the esplanade of one of the large hotels, the visitor can well understand why Napoleon, seeing this jewel of the English coast from the deck of the old *Bellerophon* on his way to exile, was impressed with its charm. It stands, like Rome, on seven sunlit hills (see, also, text, page 566).



Photograph by A. W. Cutler

THE TIDE LEAVES A SWIMMING POOL AT WOOLACOMBE SANDS

Immensely popular among the children is this natural plunge near Ilfracombe, seven feet deep at the end, in the foreground, and shallow enough for babes' wading in the upper part.

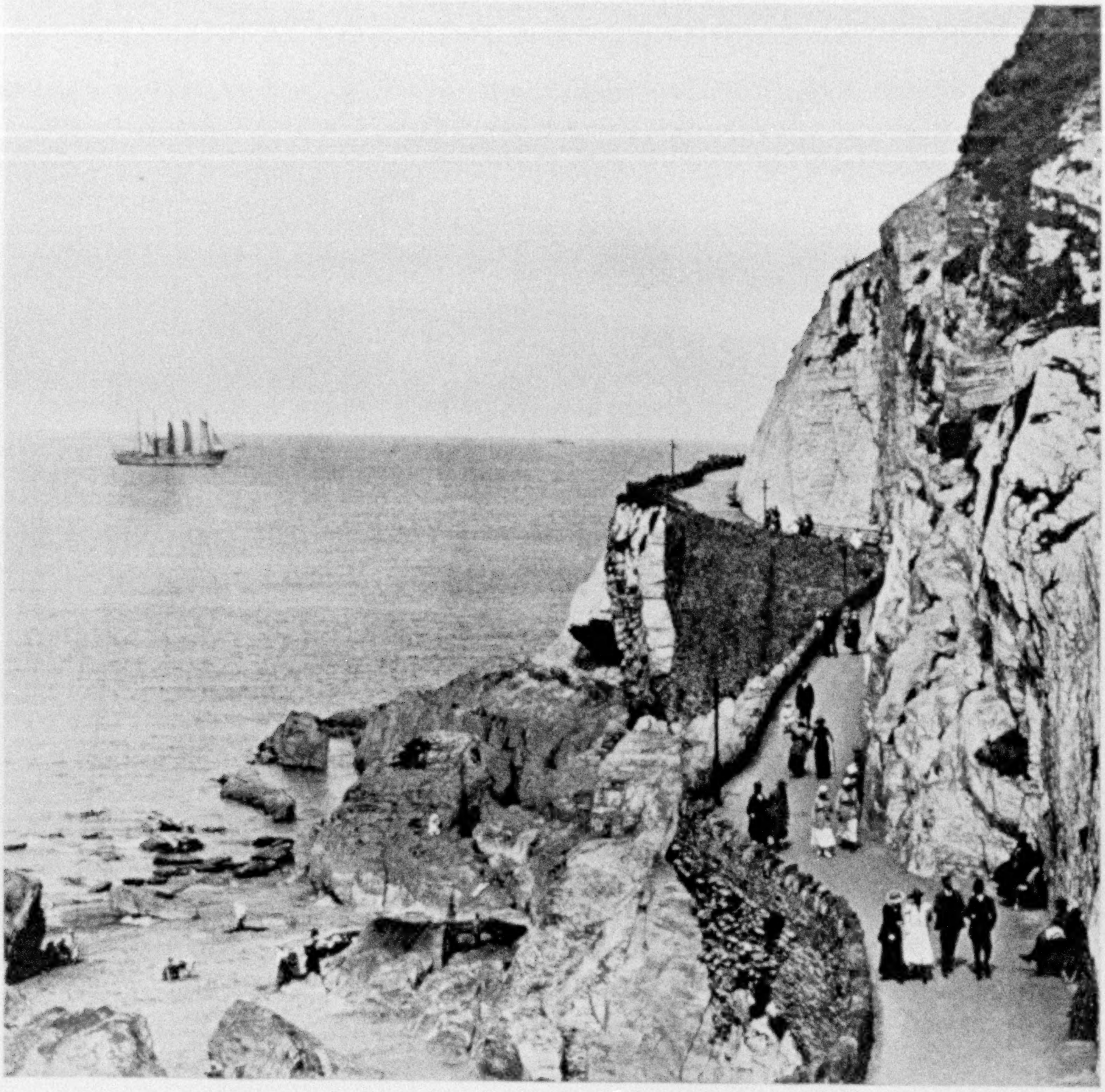
By day Plymouth does not touch the heart, but at night the evidences of a romantic age become visible. Boats' lanterns gleam on the black Catwater. The round heads of shipkeepers bead the bulwarks of anchored hulks.

WHERE DRAKE BOWLED

Then one remembers that for 700 years Plymouth has been one of the world's great seaports. In the 4,500 acres of her harbor gray battleships and lofty liners find anchorage. Overhead is the Hoe, the finest water-side parade in the kingdom, on which Walter Raleigh was arrested by Elizabeth's orders. Tradition says that Drake and the captains of the fleet played their famous game of bowls here while couriers came to them with news of the Armada's sailing.

From Plymouth Captain Cook sailed in the *Endeavour*. Devonport was appropriately the home of Capt. Robert Falcon Scott, who led the Antarctic Expedition of 1910, and under whose sledge flag in the Exeter Cathedral is inscribed that moving sentence: "Here commemorated as not the least of those sons of Devon who brought fame to their country and rendered service to the world."

Plymouth's older streets are Elizabethan and their overhanging houses with oriel



Photograph by A. W. Cutler

CAPSTONE HILLS IS A POPULAR RESORT

Everywhere in the district around Ilfracombe the coast views are attractive. Near this splendid promenade is Combe Martin, with its matchless cliff scenery (see, also, page 547).

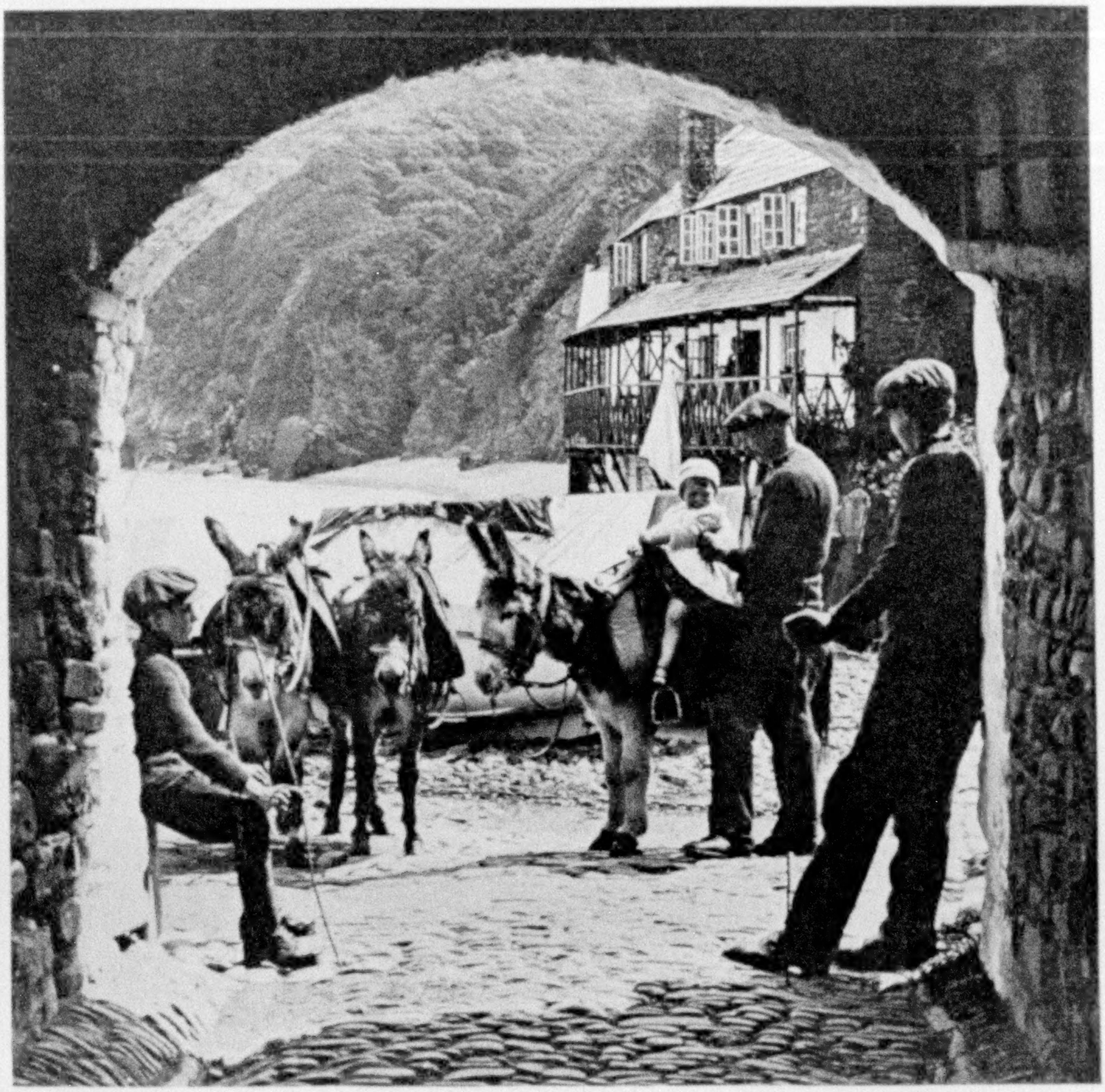
windows and paneled rooms seem scarcely to have altered with the passage of the centuries.

FROM PLYMOUTH SAILED THE PILGRIM FATHERS

We walked to the harbor to see that stone-walled basin from which the *Mayflower* sailed with the Pilgrim Fathers in 1620—a grim place of stone, redolent of the fishy odors of the market place. Small boys, with fishermen's jerseys pulled taut, regarded us gloomily. A milkman whose copper measures were open to the weather jangled past on his one-horse cart. An idler pointed with the stem of his pipe to a small, insecure, clumsy vessel being warped out of the stone slip. He knew us for Americans because we were looking at the tablet that tells of the Pilgrim sailing. "It moight be the *Mayflower,* yon," said he. "'Er soize."

Changes come slowly here. The doorman of the hotel, his breast covered with medals, his eyes hard with 50 years of soldiering, said as much. "This is a new 'ouse; 'ardly more than a century old; but that would be ancient in your mushroom towns."

The head waiter, who had "carried a napkin over my arm, man and boy, for 50 years," and had "talked to kings same as



Photograph by A. W. Cutler

VISITORS NEED DONKEYS TO CLIMB CLOVELLY STREETS

So steep are the stone-paved thoroughfares in this north Devonshire coast village that in scaling them on foot one often slips back a step. The little saddle beasts are seen here through the arch of the old inn on the quay.

I now talk to you," had remained faithful to the hotel for his half century, because it was far from the giggles of the town; or, perhaps, giglets, for there is a giglet market in Okehampton on the Saturday after Christmas, at which a boy who wishes to walk out with a girl for the rest of the year makes his sentiments known.

DITTISHAM, BY THE RIVER DART

Dittisham is as grim a little village as may be dreamed. The pleasant way to visit it is by the River Dart, when the steamer slips past a dwelling with the lovely name of World's End and under Windwhistle Cottage high on the hill, with three of its four chimney pots shot off by the erratic Territorials. Lower down the river is Pilgrim Hill, where the Pilgrims rested when driven into the Dart by bad weather, and the anchor stone on which scolding wives were tied until their tempers were cured.

Then the steamer sidles alongside the wharf on stilts, where a pretty girl or two seem always posing. The hills behind are white with blossoms, for this is the plum center of England.

A cockle center, too. When one takes tea in Dittisham, one begins with a plate of cockles and works slowly down the table toward the plum jam and clotted cream. In between are sweet cakes, thin slices of buttered bread, and a fine, ruddy old hostess.

From the river, Dittisham is lovely. But come to it by car if you dare. There are places in the lanes where a foot passenger could hardly writhe past. At the foot of the hill we steered involuntarily into a barnyard plainly labeled "No thoroughfare." The farmer took our intrusion good-naturedly. "Most every one does it," said he.

A dour little town in a kink of the river clustered about a church that carries its memories back for 1,000 years—a town once well hidden against fire and sword as well as the knifing winds of winter. Lovely to look upon, picturesque as any town can be, and yet somehow, to the imaginative, filled with threat. Ravaged in turn by Celt and Spaniard and Dane.

Before the brown river water turns to green at Dartmouth one sees Sandridge House, from which John Davis, in 1585, fired by the enthusiasm of Adrian Gilbert, set sail for Cathay in the *Sunneshine* of 50 tons and 23 men and the *Moonshine* of 35 tons and 19 men, and gave his name to Davis Strait, between Greenland and North America.

Then into Dartmouth, where budding sailors swagger in the streets and carved and gabled medieval houses bend courteously forward, as one steps upon the cobbled quay. Behind the old Butter Walk, with its black oak rooms in which Charles II held court, came the clamor of one of the extraordinary traveling fairs that tour the country roads in their steam wagons, brave in green and gold. A barker told of the marvels of a circus. Tired ladies in gauze were limp upon a platform. Parents, with deprecating smiles, yielded to the petitions of their children and bought tuppeny admissions.

HUNTING A "WARRANTABLE" STAG

Not all of Exmoor is in Devon, but when I die I hope that my happy spirit will be assigned to Dulverton, where Reuben Huckaback was "an honest hosier and draper at the sign of the Gartered Kitten." There was a sweet smell of horses in the air. Red, contemplative cows wandered through the streets. Young children of the female sort, pleasantly panted and leathered, exercised their little ponies under the inn window, in which were set red geraniums and some superbly yellow flower.

Grooms, chewing straws, stood permanently at the mouth of the alley which led to the inn stabling. They wore the breeches of the riding man but without the boots, presenting an unfinished but oddly sporting appearance.

The young ladyships who wandered about had just returned from hunting a "warrantable" stag, which is a stag old enough to be hunted legally. At this age they have attained a desperate cunning, and there are tales of warrantable stags which have poked younger and unwarrantable animals out of their coverts, and thus found time to breathe while the hounds bayed away on the illegal trail.

Stag and fox and otter hunting flourish here, for there are six hunts in easy riding distance. Nor is hunting so costly that the man in average circumstances is barred. I heard of a retired naval officer who lives in a pretty cottage, keeps a small car, has a competent servant, is able to put in a week in "town" during the season, and often hunts with one of the clubs. Yet his income is only $1,800 a year!

No otter hunting, however, shall be included in the list of entertainments for this family. One rides a horse after the stag and fox, and that is, after all, a reasonable thing to do; but a thorough otter hunter seems to consider his sport an aquatic one, and dives cheerily into the pool when the dogs have brought the otter to a stand. An otter hunter, or at least the otter hunter of Exmoor, looks like nothing human except the salvage from shipwreck. The one thing lacking is seaweed in the hair.

It is easy to get lost on the moor, "that bare rolling waste very like the sea, without a voice, without life, and without human habitation." Yet after a time we rolled valiantly into Porlock—I have determined not to speak of another village as the loveliest; they cannot all be the loveliest—where we sat in the inn garden under an arbor and looked out to the sea, far below our feet. Then we took the crazy flag walk into the inn parlor and sat in the very seat in which Southey sat, with his feet among the ashes, and wrote his "Sonnet by the alehouse fire." That is

Photograph by A. W. Cutler

IT IS A STIFF CLIMB UP THE GOLDEN STAIR

In Clovelly the quaintly named street leading to Sailors' Lookout is one long flight of steps about six feet apart. Donkeys are constantly in demand for making the ascent. In the eyrie at the top, men from the ships congregate and gaze out to sea all day long.

among the traditions of the Ship Inn. The vivid memory to us, however, shall be that of the colloquy between Boots and an anonymous lady in the early morning:

"They must be your boots, Muddum. I have spoken to all the other guests and they all say they are not theirs."

"They are not my boots and they are not my sister's boots. We have all our boots. We wish you to take them away."

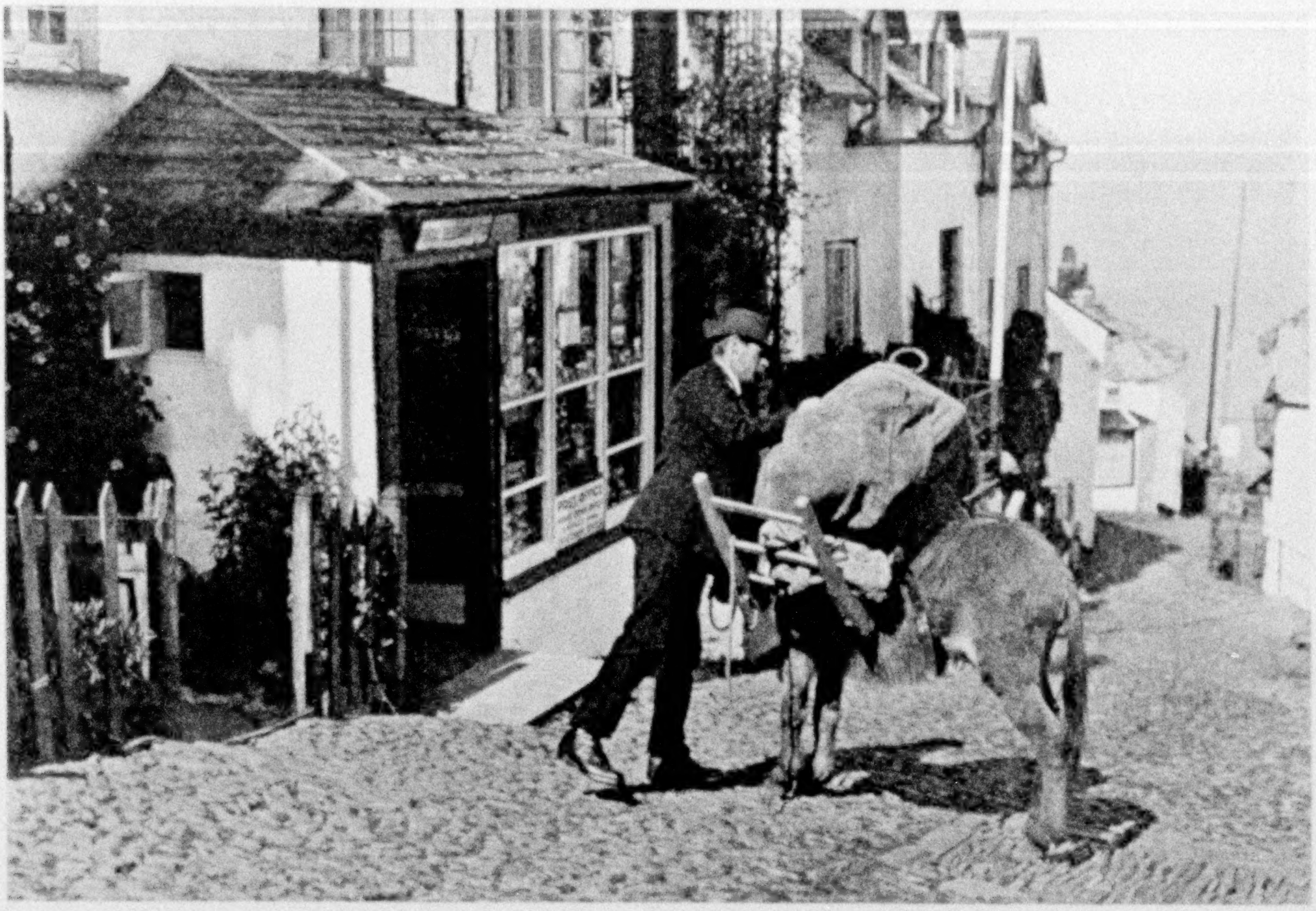
"I cannot, Muddum," said Boots firmly. "They must be your boots. All the other guests have gone except the Hamericans. They are not Hamerican boots." He tiptoed deferentially down the hall. Democracy had scored again.

THE LAND OF LORNA DOONE AND GIRT JAN RIDD

Hereabout is Doone country, in which girt Jan Ridd fought the outlaws. That egregious person, the man who demands that his facts come to him raw and unadorned, is certain to complain that the Doone Valley is shallow and lovely and the Waterslide is hardly a hazard for a wading infant. What of it? Blackmore's genius illuminated the background for one of the immortal tales of England. After all, the Doones really were outlaws, and Oare Church, in which Lorna was shot, is still to be seen by the reverent. There are also sheep marked "J. R.," for the John Ridds of to-day wander the moors. A Ridd stood with King Alfred at Athelney.

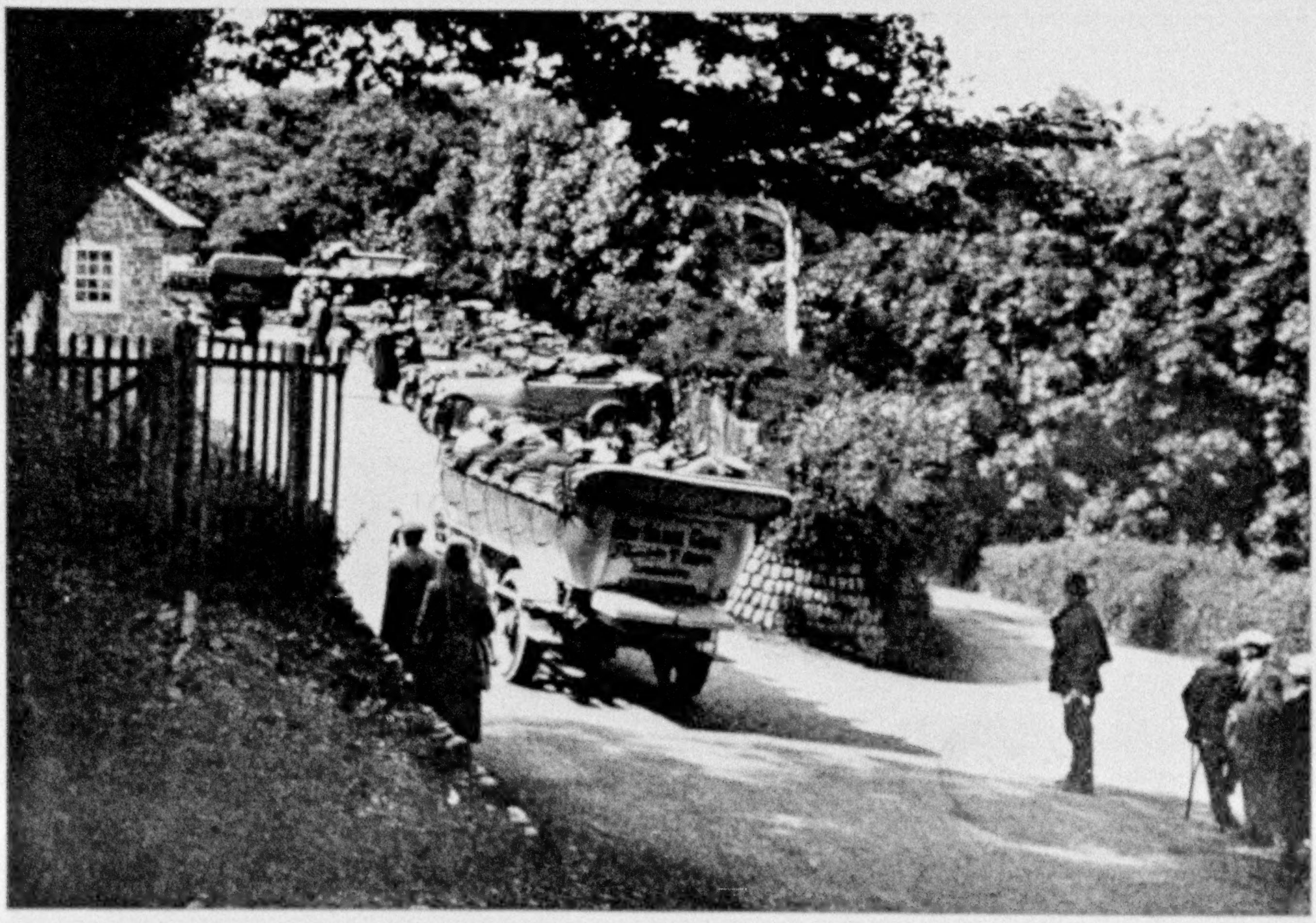
DARTMOOR—LONELY, TERRIBLE, DANGEROUS

If I do not exult over the more than 100 miles of winding northern coast, it is because there was an actual monotony of beauty. We came to Lynton, on the hill, and bought articles made of the skin of the red deer. Then we creaked down a great hill into Lynmouth, on the sea below, and followed on to Ilfracombe, with



HERE MAILS ARRIVE AND DEPART BY DONKEY BACK

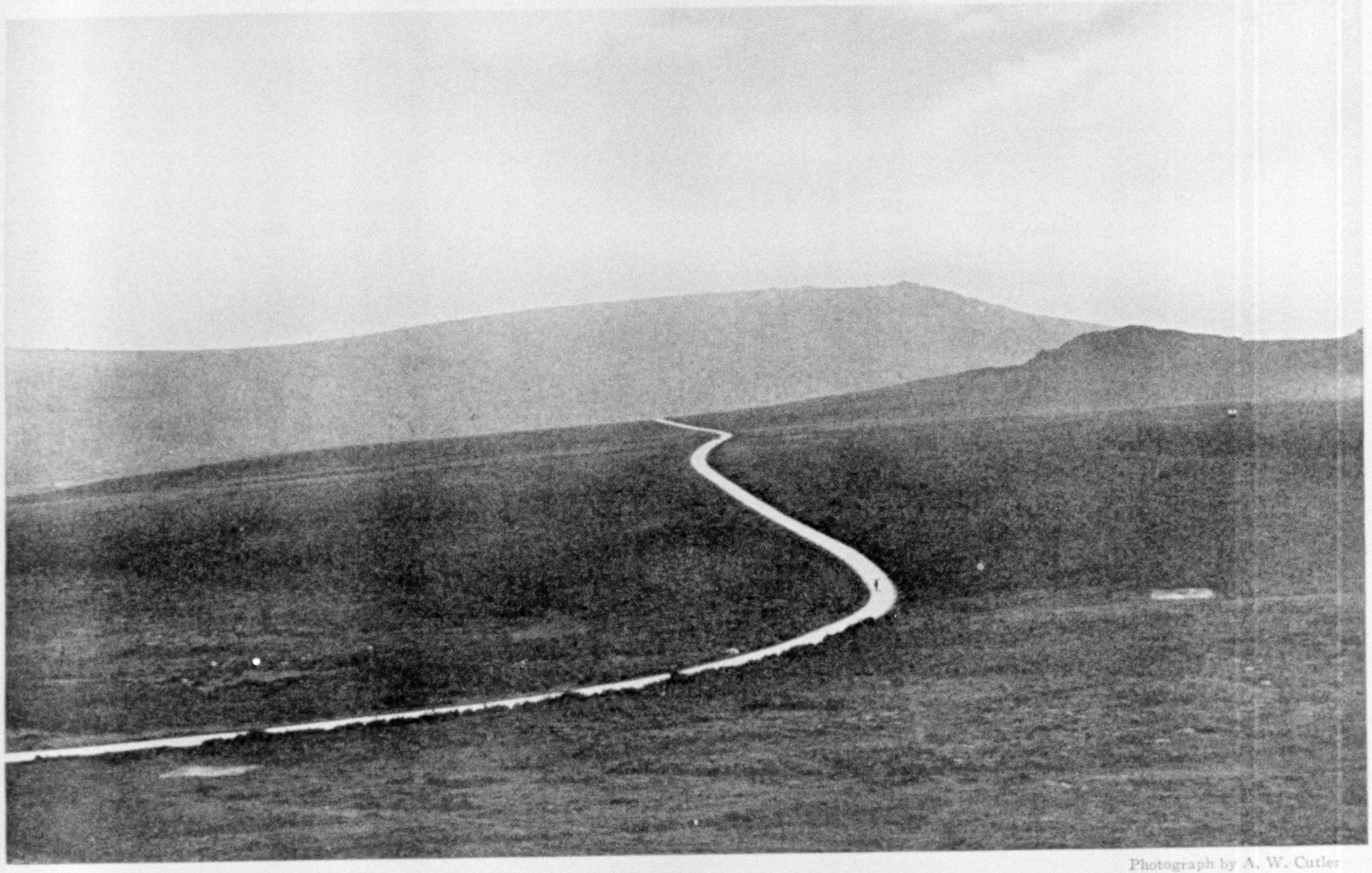
Perhaps the most primitive post office in the British Isles is that at Clovelly, where the bags are transported along cobblestone-paved streets so steep that they tax the agility of the "mountain canary."



Photographs by A. W. Cutler

CHARS-À-BANCS INVADE CLOVELLY IN SUMMER

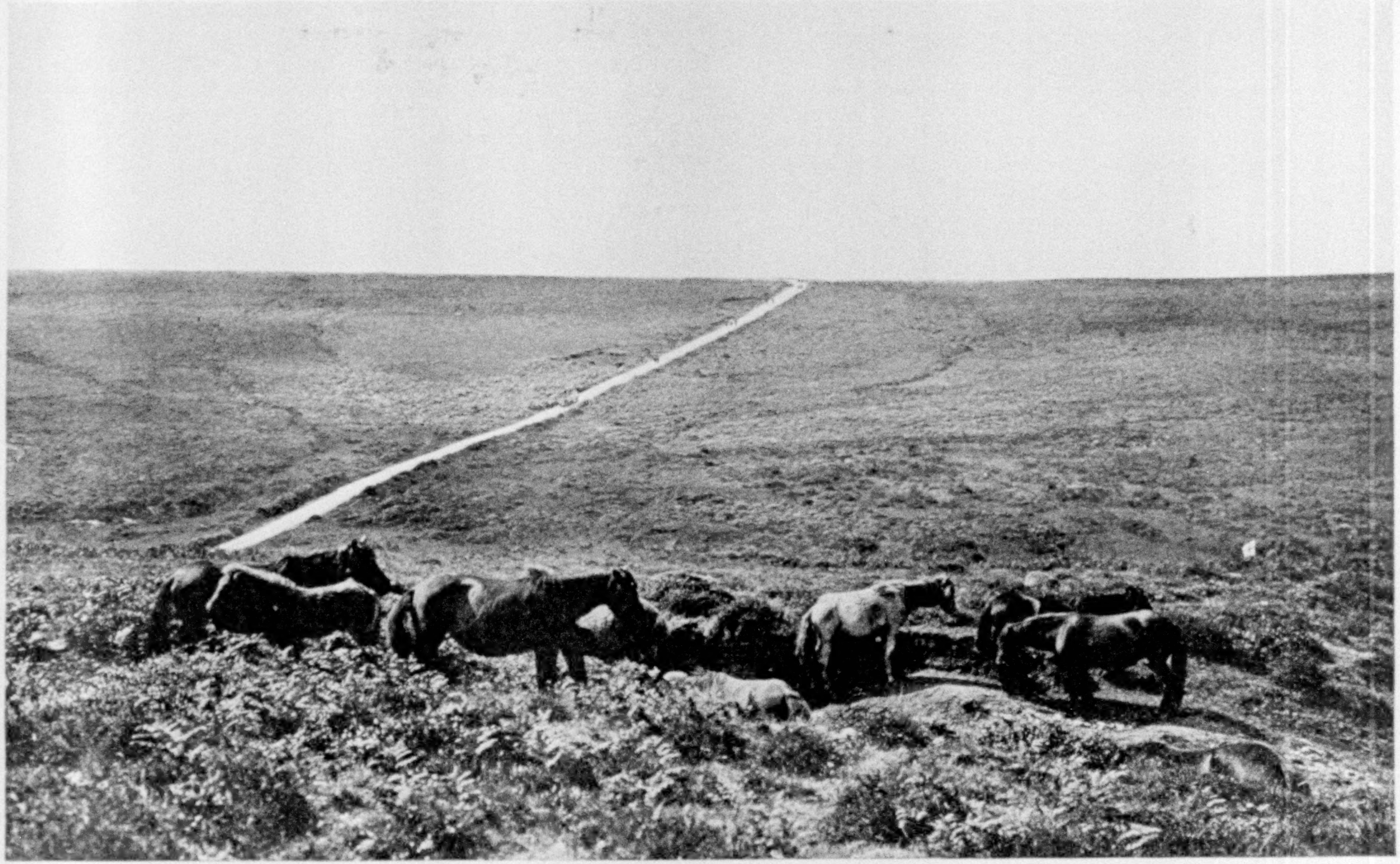
In the tourist season the yard at the summit of the village is packed every noon with motor cars and cycles of all descriptions, which get thus far and no farther. The steep, rough streets defy such modern conveyances and keep the quaintness of the town itself unspoiled.



Photograph by A. W. Cutler

TWILIGHT DEEPENS THE SOMBER CHARM OF DARTMOOR

After sunset the utter loneliness and desolation of the scene make themselves felt. Scarcely 60 years ago the very road along which the young couple are strolling was notorious for the highwaymen who preyed upon coaches and lone horsemen. On a clear day a view of 50 miles in every direction is possible from the summit of Haytor Rocks, the point from which this picture was taken (see, also, text, page 558).



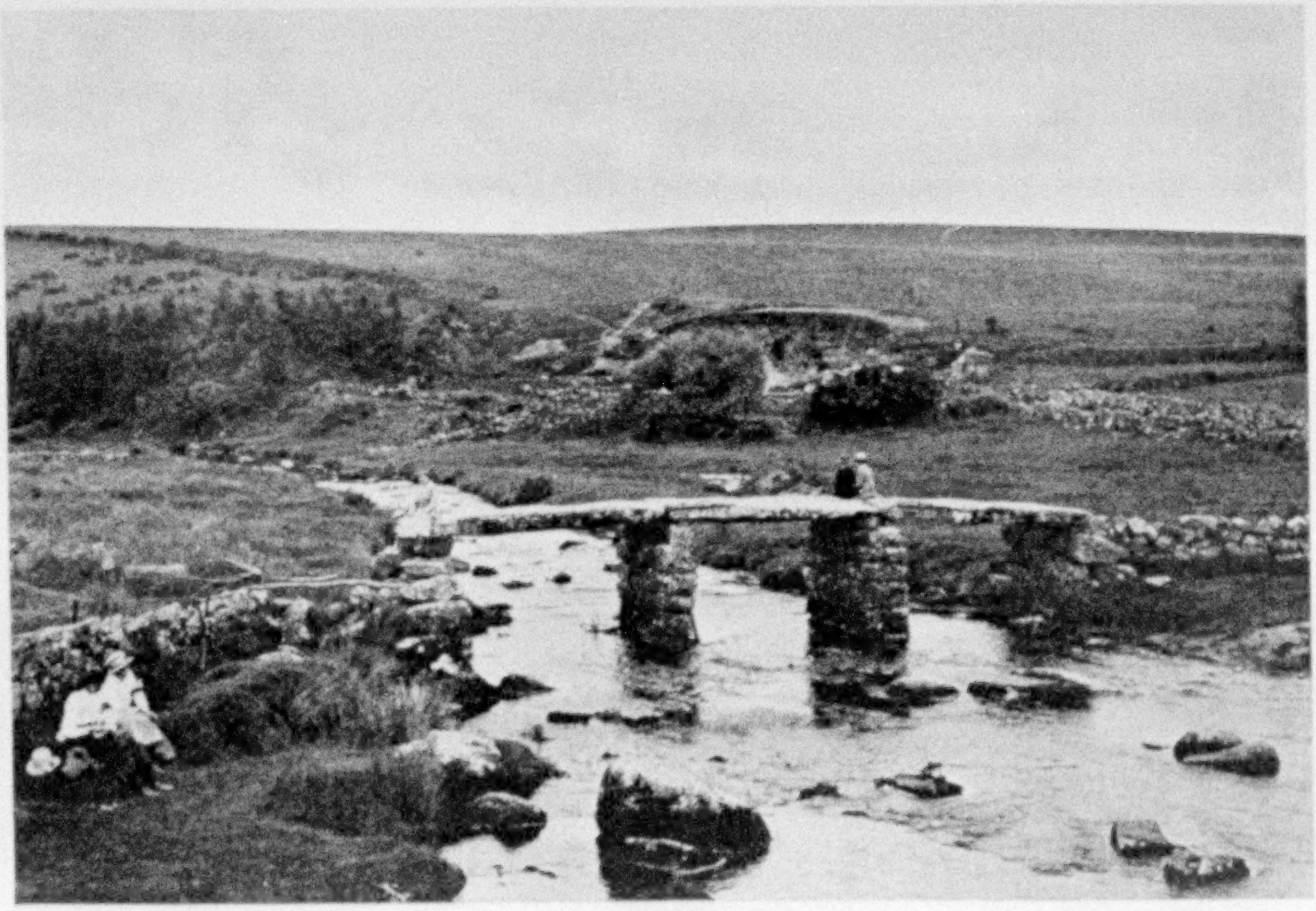
Photograph by A. W. Cutler

PONIES THRIVE ON DREAD DARTMOOR

Treacherous bog and clutching quicksand have no terrors for these wary animals. When the weather is hot, herds of them often may be seen standing in pairs, head to tail, to protect themselves from flies (see, also, text, page 565).

DARTMOOR ATTRACTS ITS DEVOTEES EVERY SUMMER

Some outdoor enthusiasts are so charmed with life on the moors, especially in the early morning, that they pitch camp here every year during their holidays.



Photographs by A. W. Cutler

ANCIENT CLAPPER SPANS CROSS MANY DARTMOOR STREAMS

Nobody knows the age of these peculiar structures; their origin is probably contemporary with that of the cromlechs (see illustration, page 542). The one shown here is at Post Bridge, a famous stopping place for coaches. Three stone slabs, each 10 by 15 feet in size, form the floor, which rests upon heavy rock supports.

its gulls poised in air to take buns from friendly hands, and Clovelly, with its cobbled hill, up which tourists ride on pessimistic donkeys.

Not even Bideford, with its 24-arch bridge over the Torridge, where Kingsley wrote part of "Westward Ho!" detained us.

For Dartmoor called us. Yet on that first day on the moor we drove as though the Devil were after us. The place is unwholesome and terrible.

Of course, Dartmoor is beautiful; yet it was not so for us. It was a nightmare and unforgettable, lonely and sad. The little car panted faithfully up hill after hill. At the top of each we saw just what we had seen from the pinnacle of the hill before—an unending sweep of hills and valleys. Always the hills crowned with gray rocks, and sometimes—not often—the gray rock remains of a ruined dwelling. Here and there were the monuments of a people dead so long there is no memory of them in all the world, and often, in the empty valleys, patches of poisonous green.

The man who has whisked across Dartmoor in a fast car, driven by a chauffeur whose stolidity is assurance, may think we suffered from nerves. So may that man who has lived with Dartmoor long enough to love it. To me it seemed a granite hell. The roads are not dangerous unless something breaks; then, any road is dangerous. But one finds himself pressing involuntarily. Suppose the little car should grow tired of this infernal sequence of climbs and drops and kinks? Suppose that a fog should come and blind one with its woolly blanket? Suppose one should be deserted on Dartmoor at night? I tell you, I was afraid.

Photograph by A. W. Cutler

A DREWSTEIGNTON INN SERVANT OFFERS A STIRRUP CUP

While the young woman ministers to the needs of the passing guest, a group of villagers look on with interest. As soon as the horseman goes on his way, they will return to their stand in the barroom.

SHUDDERING THROUGH THE CONVICT SETTLEMENT

I had always thought of a moor as a wide, gently undulating land clothed in heather and gorse. Nothing like it. Dartmoor is a great granite bulge, torn into wrinkles of valleys by the storms of centuries. The roads run along the hilltops when they can. A man wandering in the hollows is lost before he knows it. The turns are so infinite. The prospects are all

Photograph by Emil P. Albrecht

PLYMOUTH HARBOR CRADLED BOTH "ENDEAVOUR" AND "MAYFLOWER"

From this historic haven, where to-day fishing fleets drop anchor, Captain Cook set sail on the voyage that flung afar the banners of the British Empire. Here, too, the Pilgrim Fathers put out to sea to lay the foundations of a nation in the New World (see text, page 550).

alike. Sooner or later, he finds the mire.

They do not seem dangerous at first sight, these Dartmoor bogs. Brilliant, rug-like patches of neat turf. Then black mire spotted with tussocks of wire grass, on which those who have an abiding faith in Providence may progress by bounding. Not frightening at all at first. One idly tosses a bit of flat stone on the green mat. Nothing happens for a time. Then a shiver passes over the surface. The stone sinks. One ventures to thrust a stick into the mire. It is drawn down as if a hand were pulling from below. What chance has the man wandering blindly through a Dartmoor fog?

There are places on this moor that dogs will not go near, so reputable men have said. Ghosts or no ghosts, I know how the dogs feel. Reason pointed out that herds of the Dartmoor ponies capered about the hills—although the pony is no longer an economic proposition and so is gradually disappearing—and that a pony is presumably as susceptible to the presence of wandering demons as is a dog. No matter. We feared the moor. Not even the beery mutterings of the drinkers in the Three Crowns Inn at Chagford reassured us.

We drove from Chagford, that white, shining village on a furze-clad knoll, with the Teign at its feet—Chagford, that loveliest of villages. That is absurd, of course. Devon is full of villages which are equally the loveliest (pages 541 and 542).

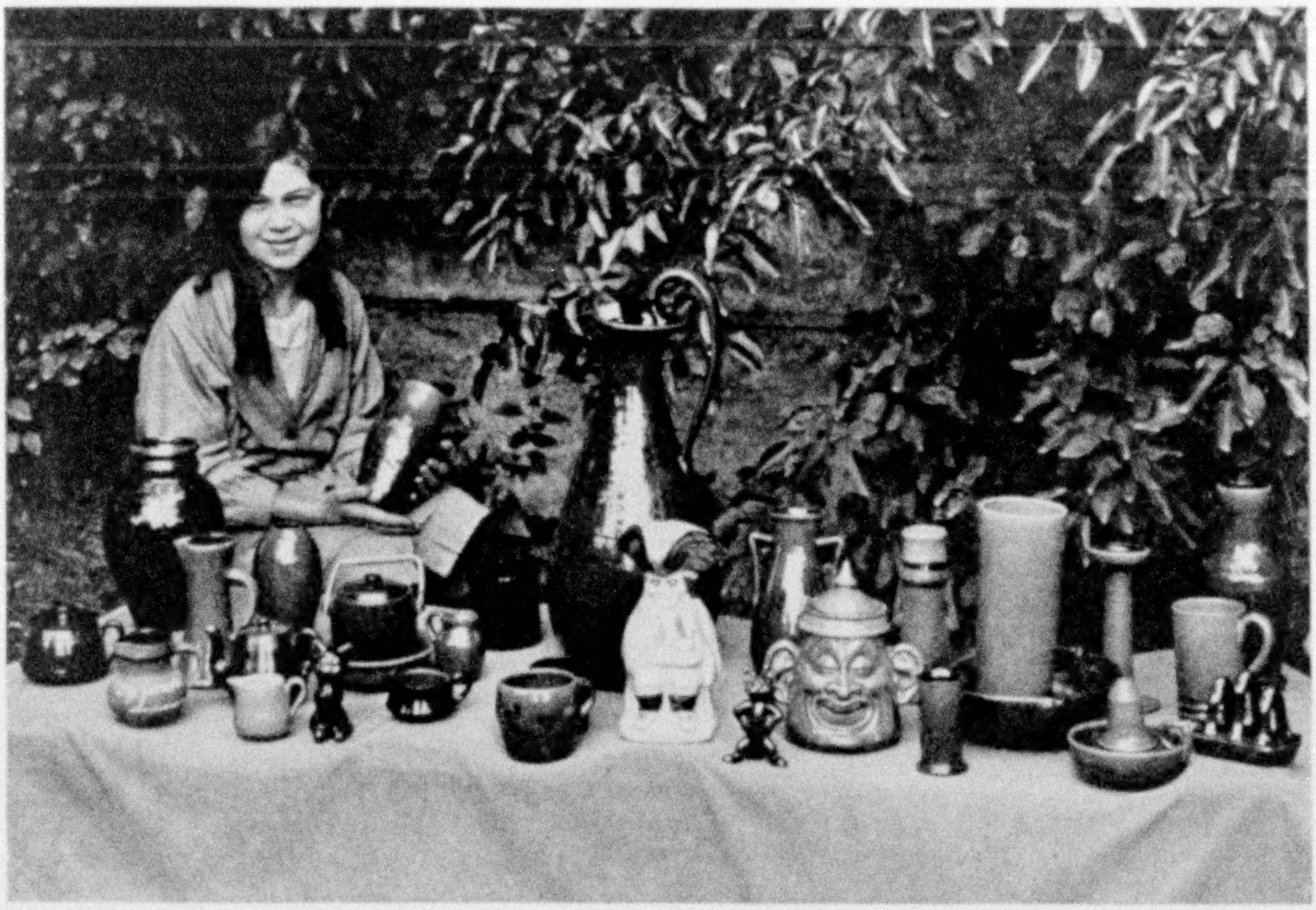
We shuddered through Princetown, where the convict settlement is, and were afraid. Lest some one suspect me of undue sentiment, I offer in self-defense that I have been familiar, as visitor and reporter, with more than one penitentiary; but this Dartmoor prison is cold and bare. Drivers are directed not to stop their cars in the vicinity and holiday-makers may not use their cameras.

We met a group of wardens in Princetown's streets. They seemed cold, precise, muscular men. At home with the Mesdames Warden across the sea-coal fires, they are, no doubt, lively and entertaining companions. As they tramped past they seemed steel and bone and mus-

Photograph by A. W. Cutler

FOUR PLAYMATES REST IN A CHAGFORD DOORWAY

Bunny and puss are really on excellent terms, though the latter appears to be awaiting an opportunity to "land one."



Photograph by Clifton Adams

ROYAL BARUM POTTERY IS MADE AT BARNSTAPLE

Apart from the bridge and churches, the principal places of interest in this progressive town are the up-to-date factories that produce celebrated ceramic wares.

cle husks of men. A squad of convicts hurried past almost at the double—clump, clump, clump, with the regularity of an iron-shod machine. Their faces were gray and bleak and hideously alike.

The man at the gate was courteous when I asked to talk with the Governor of Dartmoor. It could not be done. There is a sign on the gate in black and gold that no one may enter except with a signed order from the Secretary of State. Did I have it? Well, then, ... Like the moor itself, the prison is implacable and terrible. I have never been happier than when we turned our backs upon it and fled toward the southern coast and the sun.

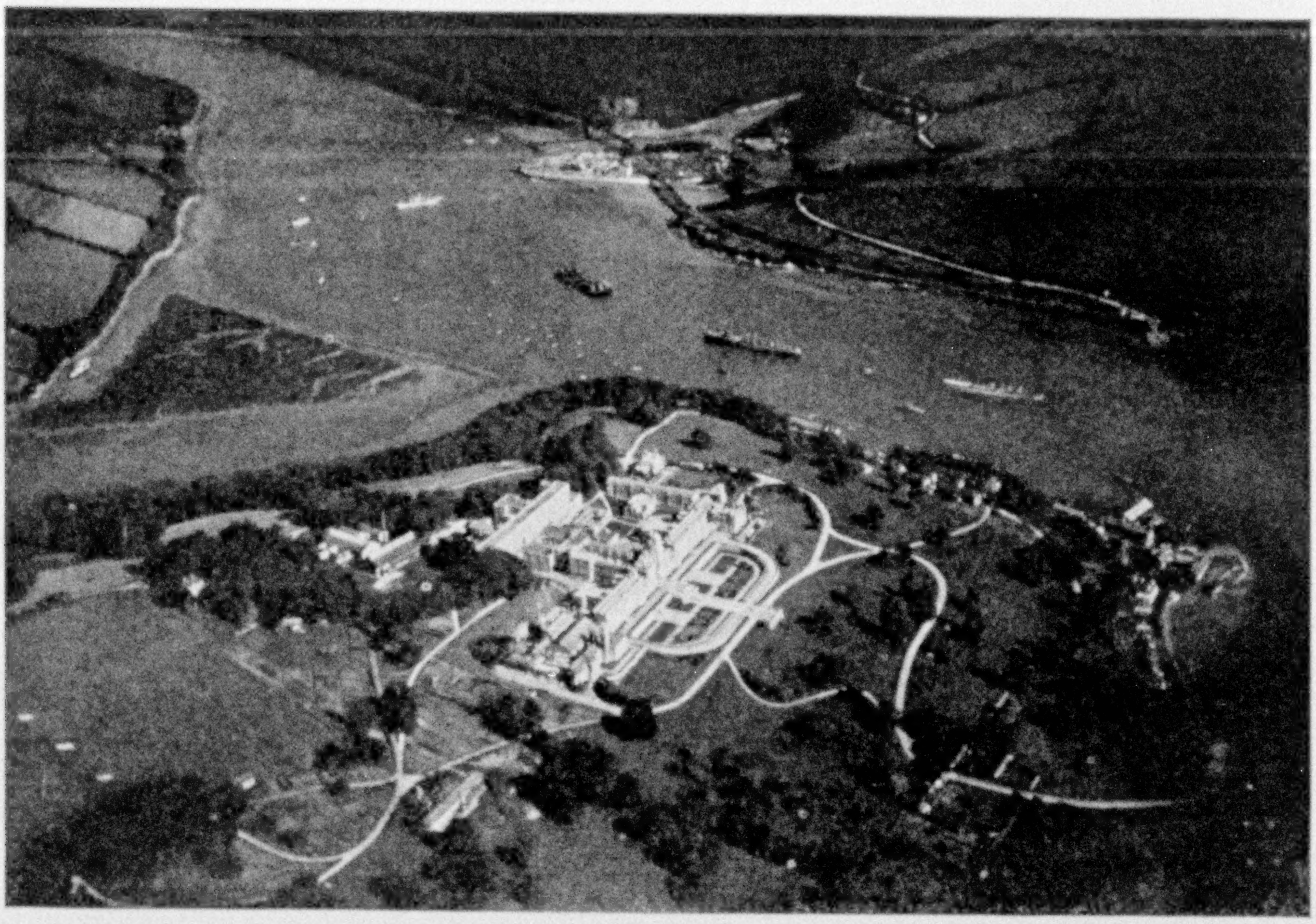
A BRIXHAM LORD OF THE MANOR PEDDLES PAMPHLETS

Every Englishman, they say, has visited Torquay, as it basks in its bowl of sun, surrounded by its seven hills, upon the lips of its bays, so curved that one may always find shelter from any wind that blows. A lovely resort town, white and shining and bright and clean, with palms and aloes mingling with the honest English honeysuckle. It cannot be overpraised.

Yet after we had played our part and visited the Spanish Barn, in which the crew of the Armada's flagship was confined, we went on to see Cockington, loveliest of unspoilt villages—there's that "loveliest" again—and Paignton of the long, white sands inn, in which was once made whitepot pudding—that Gargantuan concoction that used to be "built," according to custom, every 50 years. "Seven years making, seven baking, and seven eating."

We wandered on along this southern coast and the South Hams, that country of small, rich fields, with massive hedges and thatched white cottages, and forgot the resorts of the holiday-maker. One day we found Brixham by accident. There was the stone quay behind its breakwater, where William III landed and looked upward at the hill down which a welcoming people rolled apples to the foreign soldiery. That day Lord Brixham himself found us (see page 545).

"I am a lord of the manor," said he,



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ROYAL NAVAL COLLEGE HELPS BRITANNIA RULE THE WAVES

At this magnificent school at Dartmouth the future admirals of the Empire receive their cadet training.

"and my wife is 'Er Ladyship, and will you plaze buy a 'istory of Brixham? Thank ee koindly, zur."

No doubt he was a real lord. The lordship of the manor was once cut into shares, and these into smaller shares, and the purchaser of each moiety becomes a lord and his wife a lady.

His Lordship sat with us amid the odors of fish. We looked out at the red-sailed, black-hulled trawlers, noting that some bore wide splashes of yellow paint, and talked of Brixham's glories. Drake hurried into this little cell of a harbor with the galley *Capitana*, first of the Armada to be captured, and tore from her hull the powder which the parsimony of Elizabeth had denied the English fleet.

TOPSHAM, ONCE A THRIVING PORT, NOW NODS IN THE SUN

I would tell, if I could, of the ivied church of Haccombe, with the horseshoes nailed on its door in memory of a Carew who once swam his horse farther out to sea than a Champernowne dared; and Ashburton's House of Cards, with the sheathing slates cut to represent the pips on playing cards; and Point-in-View's oak trees, which are not to be cut down except for the building of ships to take the Jews back to Palestine; and sleepy little Topsham, once the port of this western country, with its deserted pier. One must draw to a close somewhere. Yet Topsham's story may be told on the way to Exeter.

In 1284 the Countess Isabella de Fortibus grew angry with Exeter. She had rocks piled in the channel of the River Exe, and Exeter was ruined as a seaport until a ship canal was built, during the reign of Henry VIII. Topsham is worth seeing now, as it nods in the sun, with hardly a child or a dog on its little street and its quay as empty as a moorland hill.

Exeter was at first too modern, too thronged, too rich. Its streets were too narrow for a new town, for its modernity at first obscured its beautiful age. Presently we abandoned the little car and walked on that narrow High Street. Overhead were bending shopfronts ornately carved and evidently Tudor. We sat in the galley-windowed second floor of a modest tavern in which Walter Raleigh himself no doubt had taken his wine, for it was of his day. Eight o'clock curfew was tolled on Great Peter, in the tower of the third cathedral to be built on the site on which Athelstan in 932 rebuilt—*rebuilt*, mind you—a minster (page 540).

Exeter's legends come alive as one walks its streets. The vicar of St. Thomas was hung in his vestments in the tower of his church and swung in them for four years because he played a part in the Devon Rebellion of 1549.

We bought a book or two in the fine old room in what was once Mol's Coffee House, whose windows are bowed like a ship's state cabin of the Tudor day and contain 240 crooked panes. Here we learned that Russell's hooded wagons once carried passengers to London in 12 days through the mud, and that when Charles Russell drove the Telegraph Coach over the road in 17 hours his extreme speed was properly regarded as a defiance of all decency.

TRAILING A DEVON GYPSY KING

Somehow we abandoned Exeter and Rougemont Castle and its fine traditions of dignity and worth. For 18 centuries, as Arthur Norway has written, Exeter has been the great town of Devon. "In it all the history of the west is bound up—its love of liberty, its independence, the passionate resistance to foreign conquerors." All this we left to go out on the trail of a thief.

If one follow the valley of the Exe, past that winding lane leading to Cowley Bridge, where the River Creedy joins and the sound of water rushing in the weir fills the air, one will presently come to Bickleigh. In its churchyard lies the body of Bamfylde-Moore Carew, an unconscionable rascal, beyond doubt. Born the son of the rector in that trim, ivy-clad manorhouse, which even yet beams primly down the green hill, he became the king of the Gypsies and led those wanderers far more satisfactorily than had their rightful monarch, a kindly and conservative old man.

He set Devon by the ears. He became known when only a boy by the fact that he could make any man's dog follow him, no matter how the dog's master might whistle and curse. He developed a remarkable talent in disguise and played the part of minister, officer, and sailor. He fooled the revenue men into searching the houses of Squire Cary at Torre Abbey and Squire Mallock at Cockington for smuggled brandies, then fooled them again into providing him with a fine dinner, wine, gold, and a good horse. He was transported now and then and handcuffed. He played his pranks all over Europe and finally came home. He was buried in his own churchyard and forgiven, because he was more joker than thief.

NO END TO DEVON

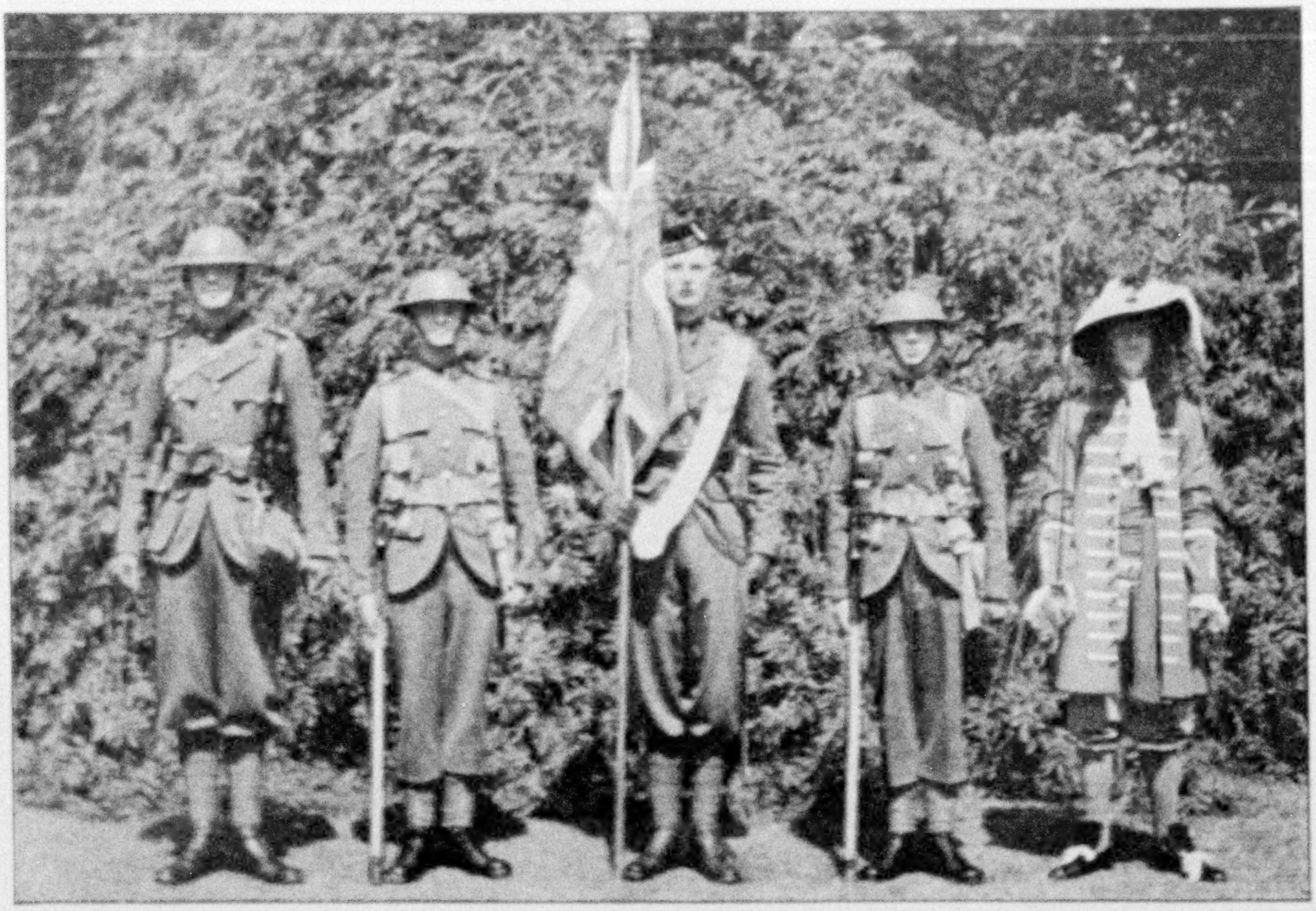
It was because of Bamfylde-Moore Carew and John Ridd that we came to Tiverton, for this ancient borough has little of interest nowadays for the wanderer.

Not a word has been said of Ottery St. Mary, with its church, which is one of the glories of Devon, and which has a weathercock as old as its 13th-century walls; or of the Warren Inn on Dartmoor, in which a winter traveler once yammered down to the common room to report that he had found the body of a dead man in a chest in his bedchamber. "It's nawt," said the innkeeper. "Only feyther. The ground was too hard with the frost for us to dig a grave, and so we salted un down."

Nor has mention been made of Snaily house, in which two old women lived for uncounted years on a diet of slugs and snails.

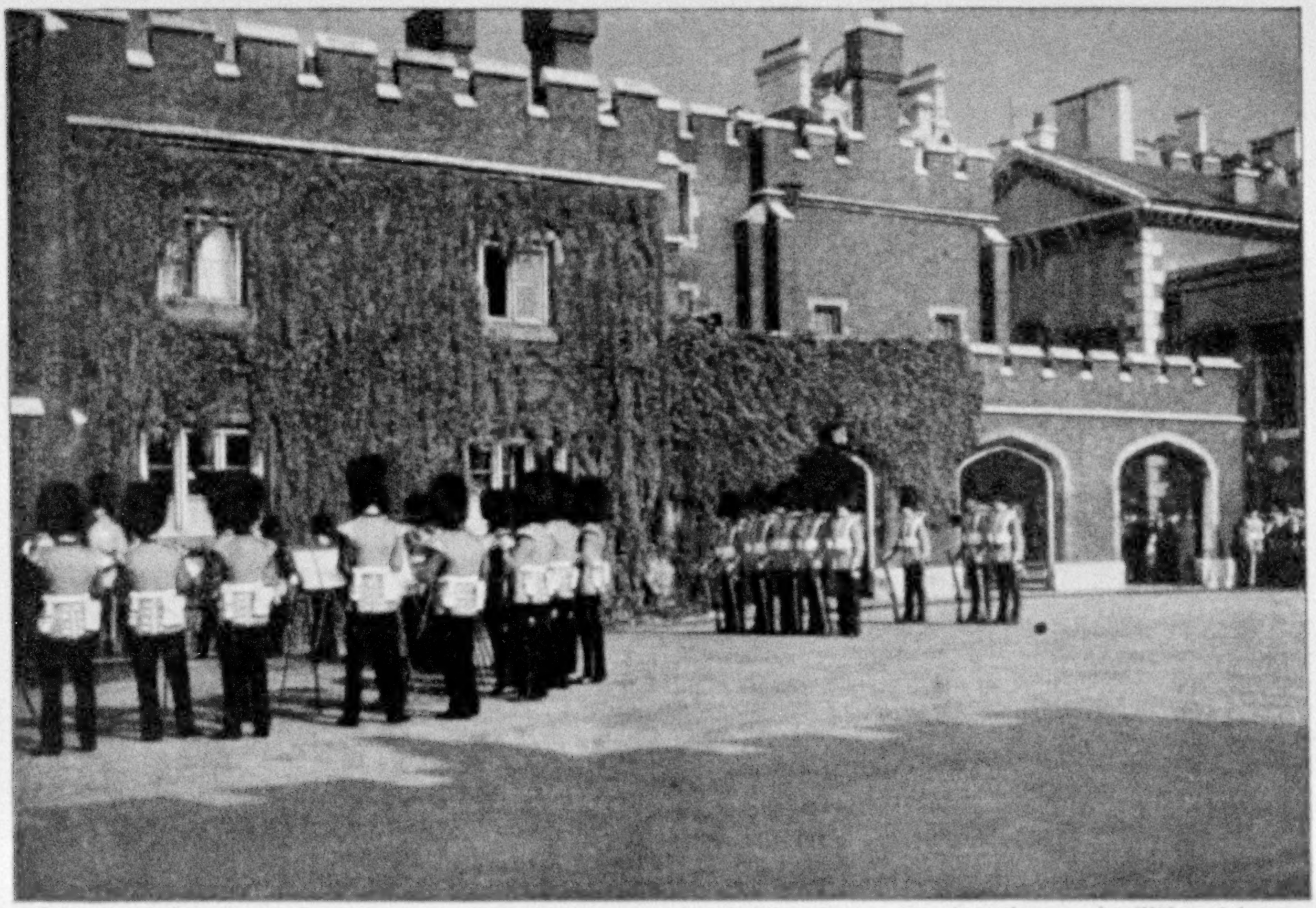
Barnstaple has been utterly neglected, and yet it is one of the most interesting towns in the Kingdom. Here is the very bridge over the parapet of which Tom Faggus leaped his strawberry mare to escape the law. Here is a church with a twisted steeple, the lead of which is richly mixed with silver. Here is also, each year, one of the few old-fashioned English fairs yet to be found, with psalm singers, palmists, performing bears, ranters, dwarfs, and marionettes, just as in the olden days.

The task is hopeless. There can be no end to Devon. There must be an end to this story.



SCIONS OF A FAMOUS REGIMENT

The officer on the right displays the uniform worn by the Royal Scots Fusiliers at the time of their organization two and a half centuries ago.



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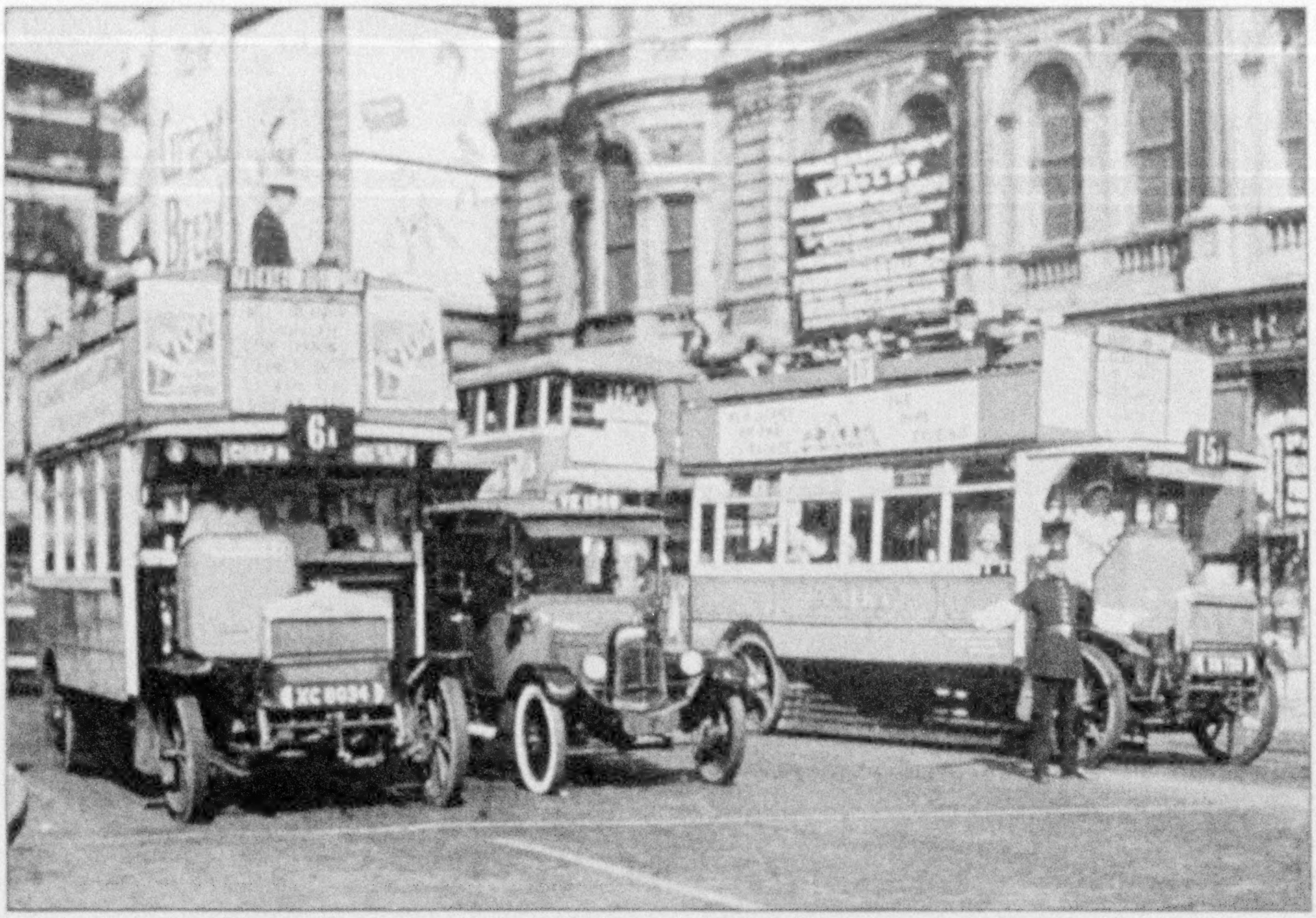
CHANGING THE GUARD AT ST. JAMES'S PALACE

Details from the Grenadier, Scots, Irish, Welsh and Coldstream Guard regiments participate in this ceremony. St. James's Palace was originally built by Henry VIII, but the vicissitudes of four centuries have left little of the old Tudor structure standing. Until recently the Prince of Wales lived here; now parts of the palace are occupied by officials of the royal household.



WHERE THE STRAND POURS ITS LIVING STREAM INTO TRAFALGAR SQUARE

A member of London's justly famous police force is doing "point duty" at one of the world's busiest intersections.

The Old Curiosity Shop
immortalized by
Charles Dickens.
The Society Tailors. | Souvenirs & Gifts 13
PORTSMOUTH S

© National Geographic Society

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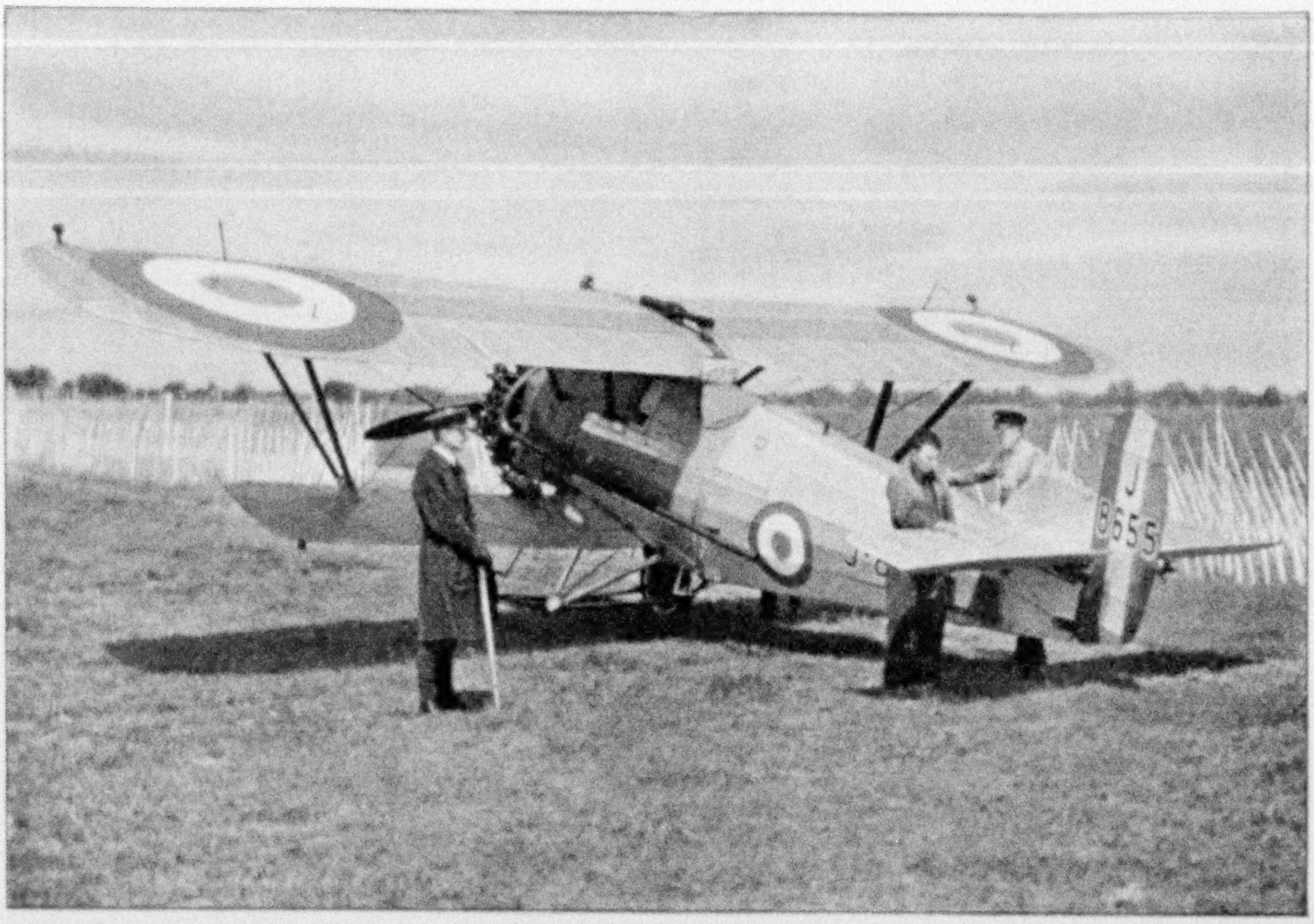
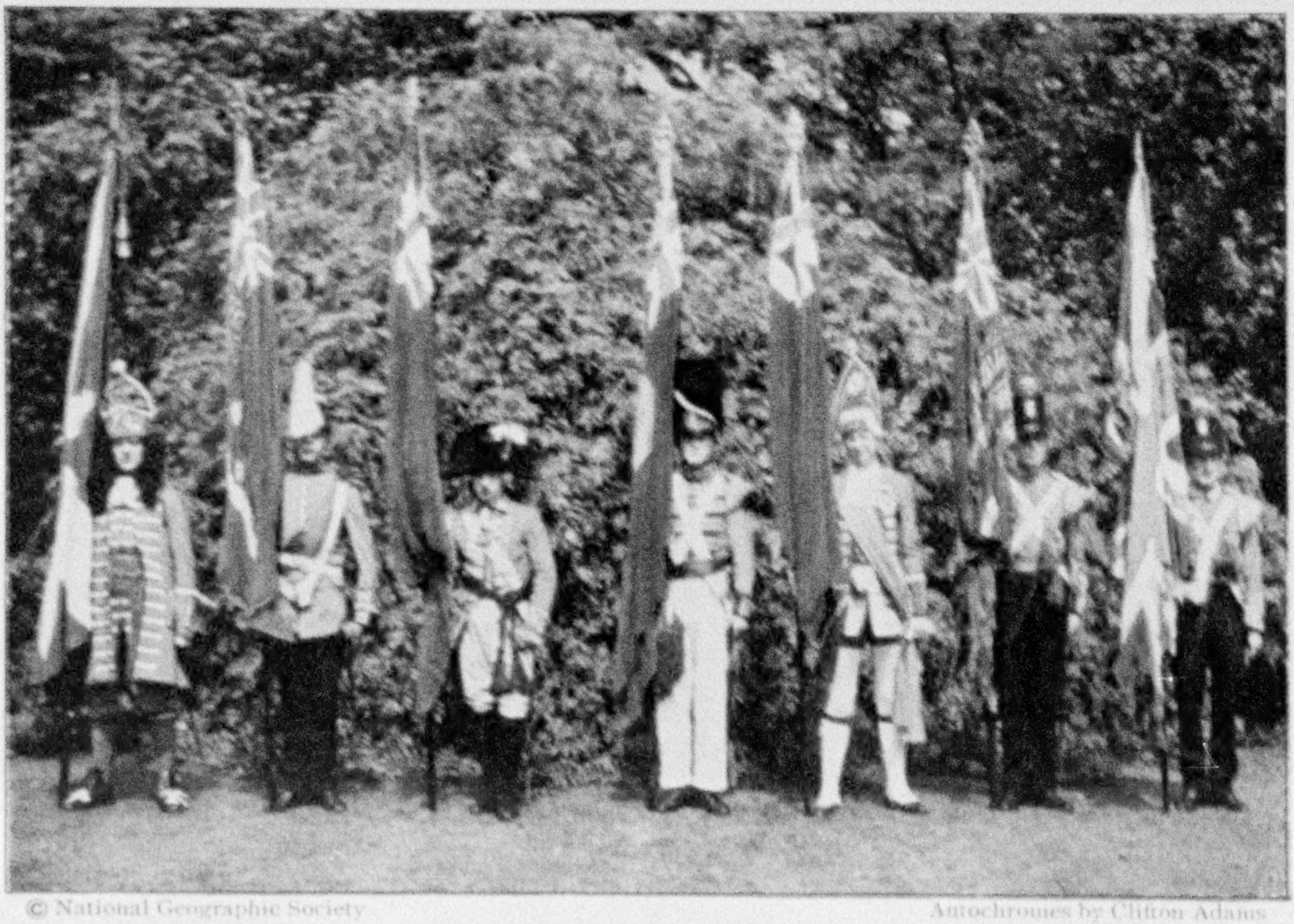
THIS LITTLE HOUSE SURVIVED THE GREAT FIRE OF 1666

The conflagration which destroyed a large part of medieval London spared the "Old Curiosity Shop," now used as a souvenir and gift store.



A MODERN WARRIOR OF THE AIR

This single-seater, high-speed fighting plane is on exhibition at Hendon, one of the large military air fields near London.



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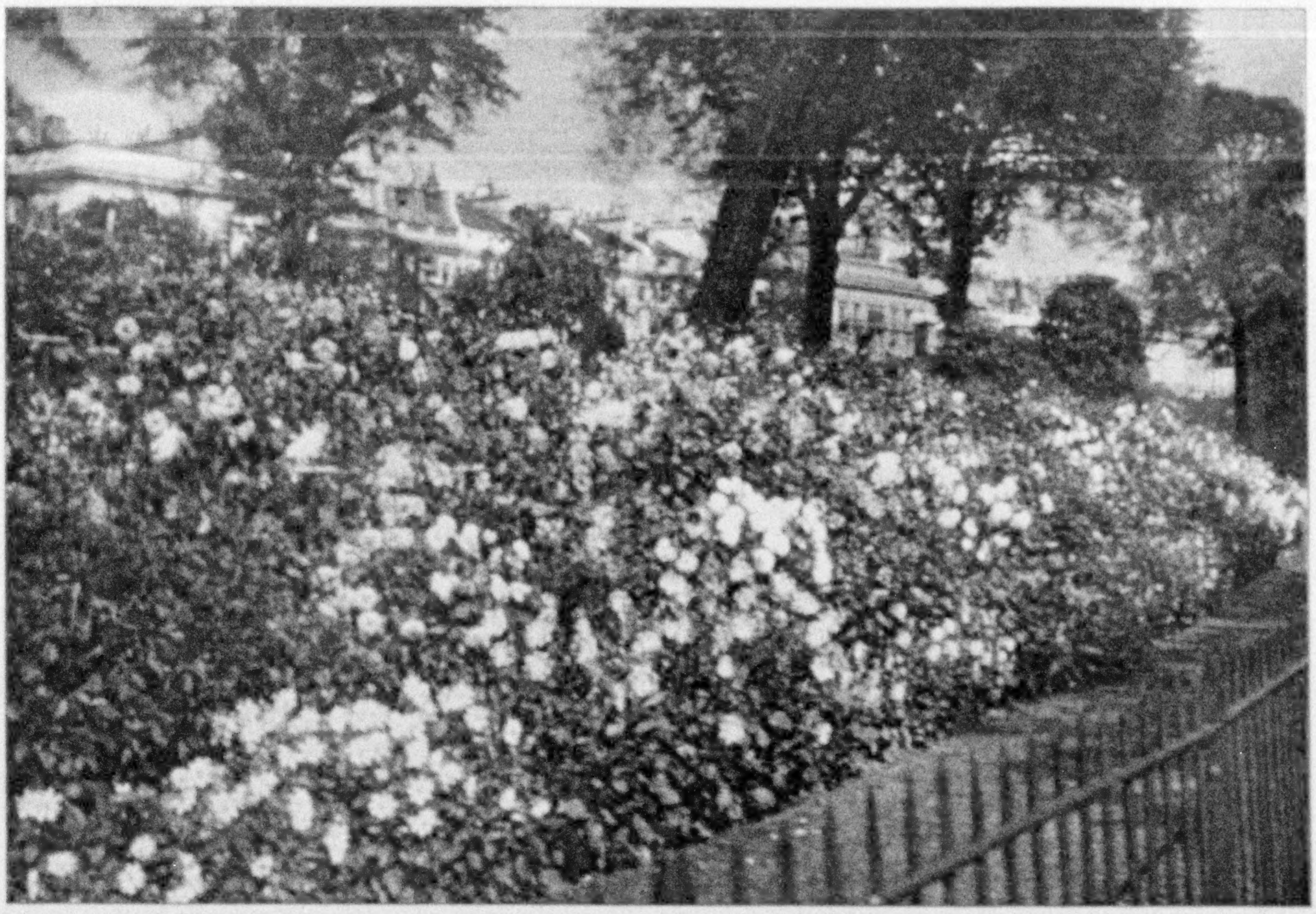
MILITARY MODES OF THREE CENTURIES

Members of the Lancashire Fusiliers pose for the National Geographic Staff Photographer in the uniforms worn by their organization since 1688.

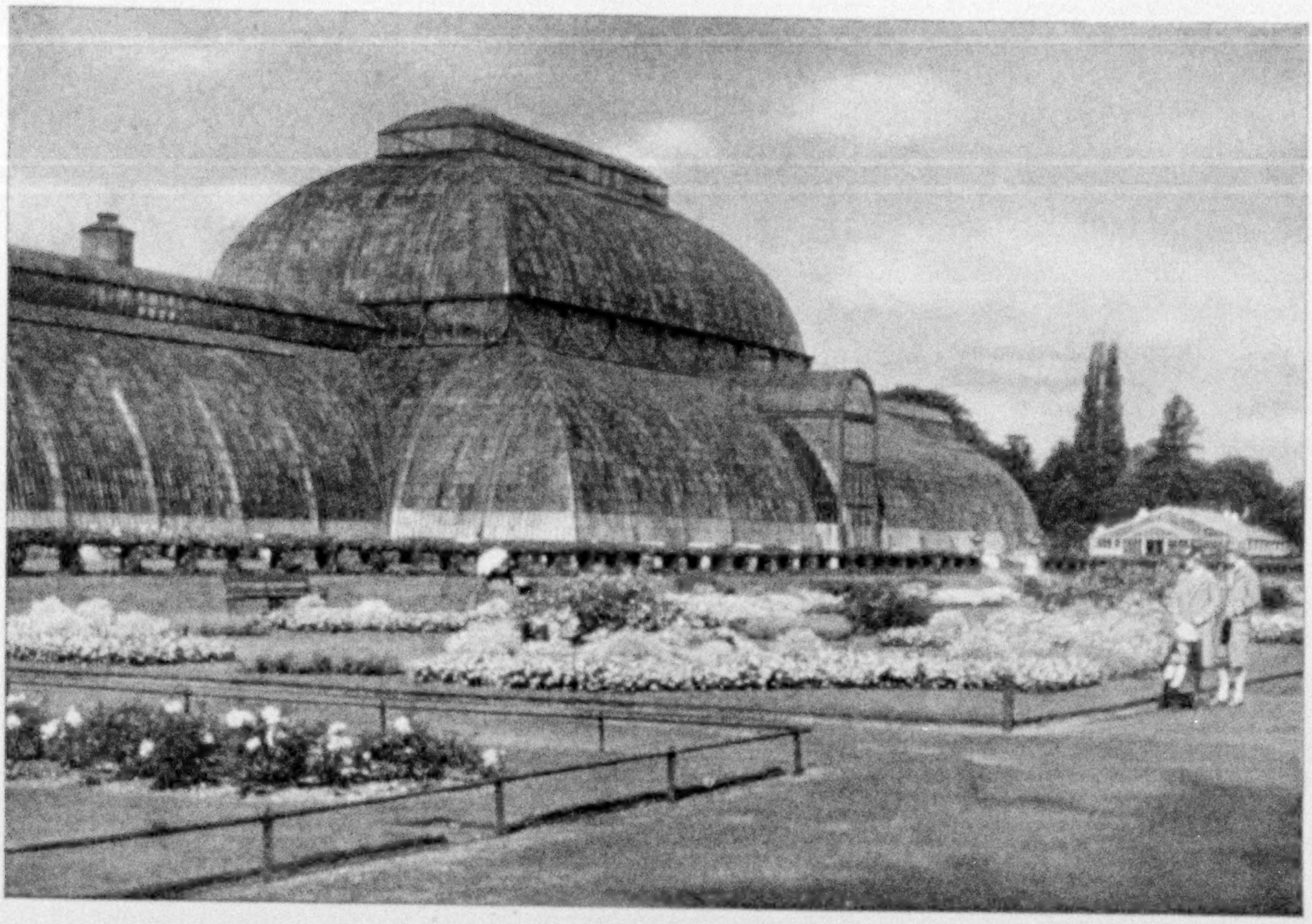


MASSES OF BEAUTIFUL DAHLIAS BLOOM IN KENSINGTON GARDENS

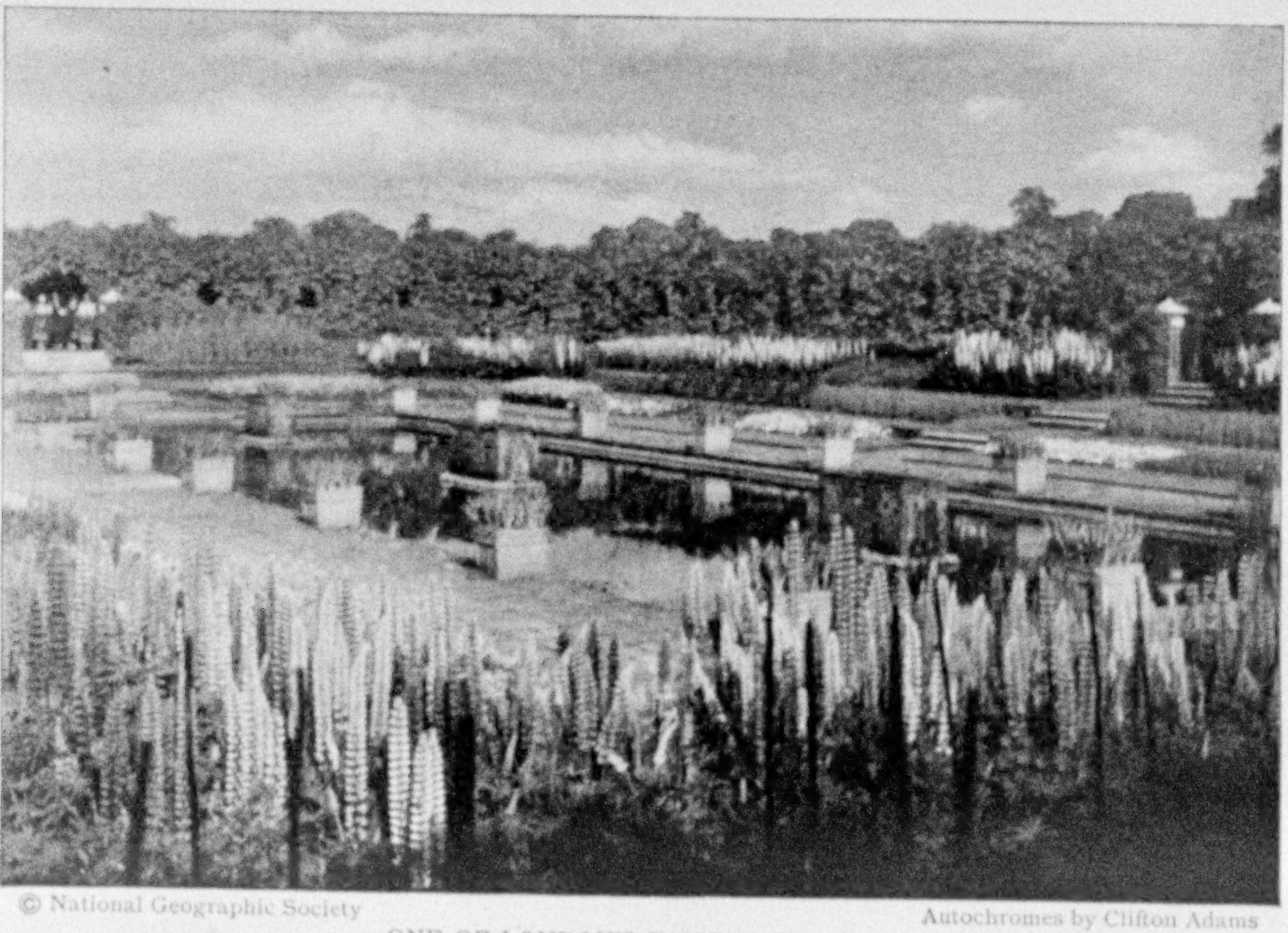
© National Geographic Society Autochromes by Clifton Adams

RHODODENDRONS IN ONE OF THE WORLD'S FINEST BOTANIC COLLECTIONS

Members of the National Geographic Society have a special interest in the rhododendrons of Kew Gardens, London, for that collection has been enriched by The Society's gift of 493 varieties of plants brought from Asia by the National Geographic Society Yünnan Province Expedition of 1923-24, led by Dr. Joseph F. Rock.



THE GLASS-INCLOSED PALM HOUSE IN KEW GARDENS



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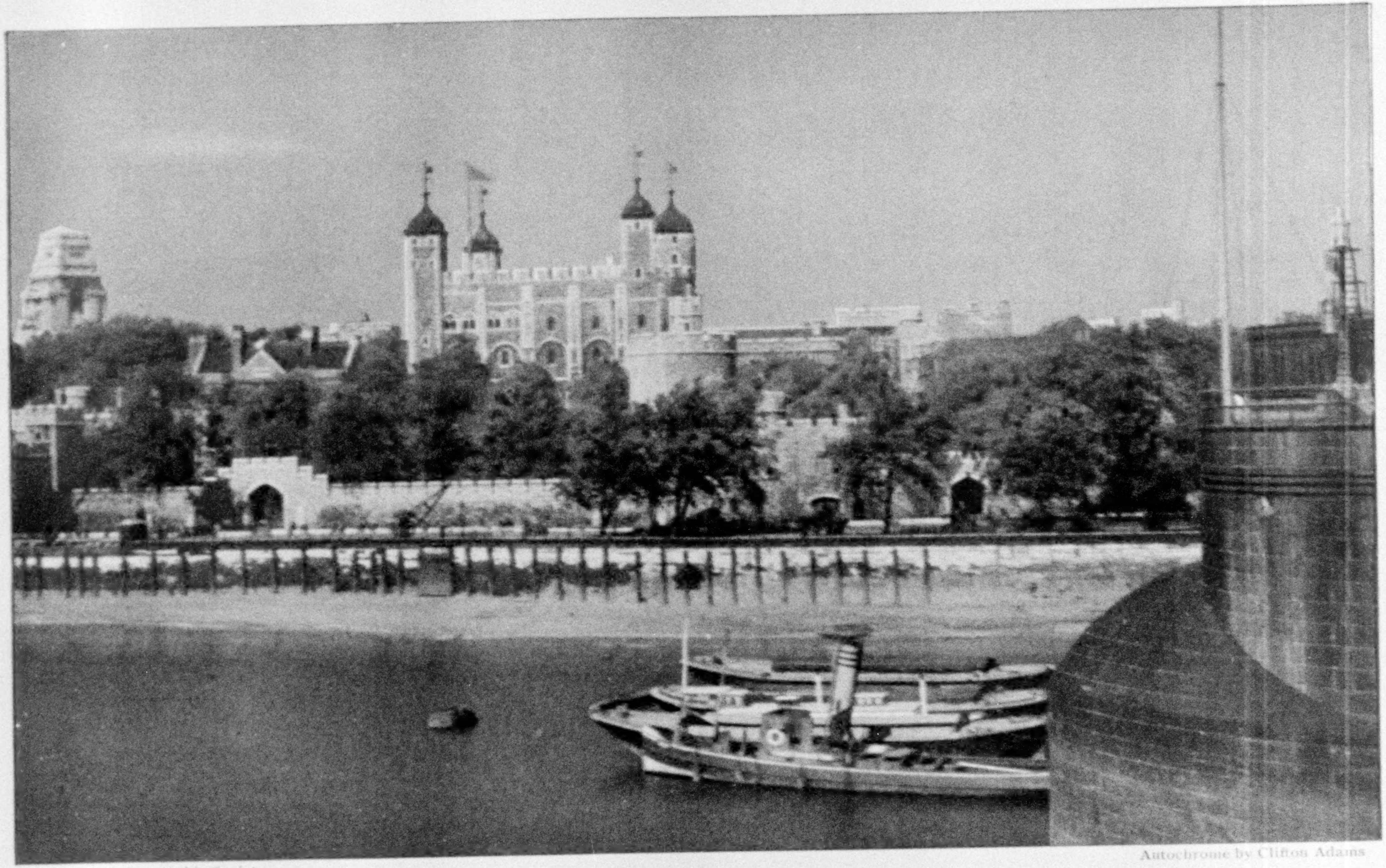
ONE OF LONDON'S FAIREST CORNERS

The sunken garden near Kensington Palace is a sight of rare beauty in May when the lupines are blooming. Vehicular traffic is not admitted to Kensington Gardens, and in consequence their pleasant walks and wide expanses of turf constitute a veritable paradise for children. These were formerly the private gardens of Kensington Palace, where Queen Victoria was born.



Autochrome by Clifton Adams

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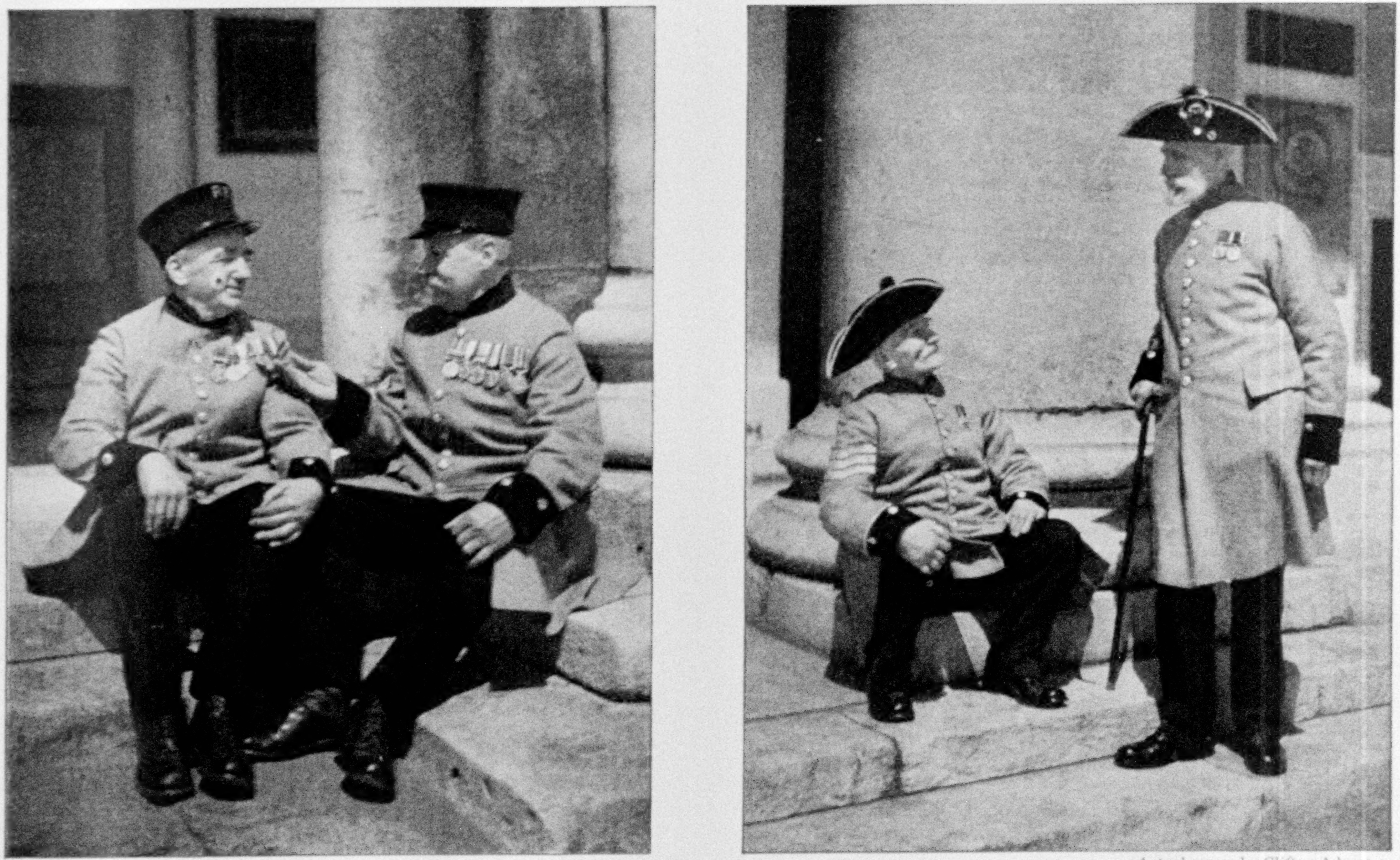
THE TOWER OF LONDON EPITOMIZES THE HISTORY OF A GREAT NATION

Probably no other place in the world holds so much of interest to the English people. The original, or White Tower, whose walls are 15 feet thick and 90 feet high, was built by William the Conqueror on the site of an old Roman fortress beside the Thames. Once a royal residence and visible sign of the monarch's power, it later became a great prison and torture house whose very name was a terror in the land. In Queen Victoria's reign the Tower was restored in accordance with its ancient plans and to-day serves as a museum of British history and a repository for the crown jewels of the Empire.



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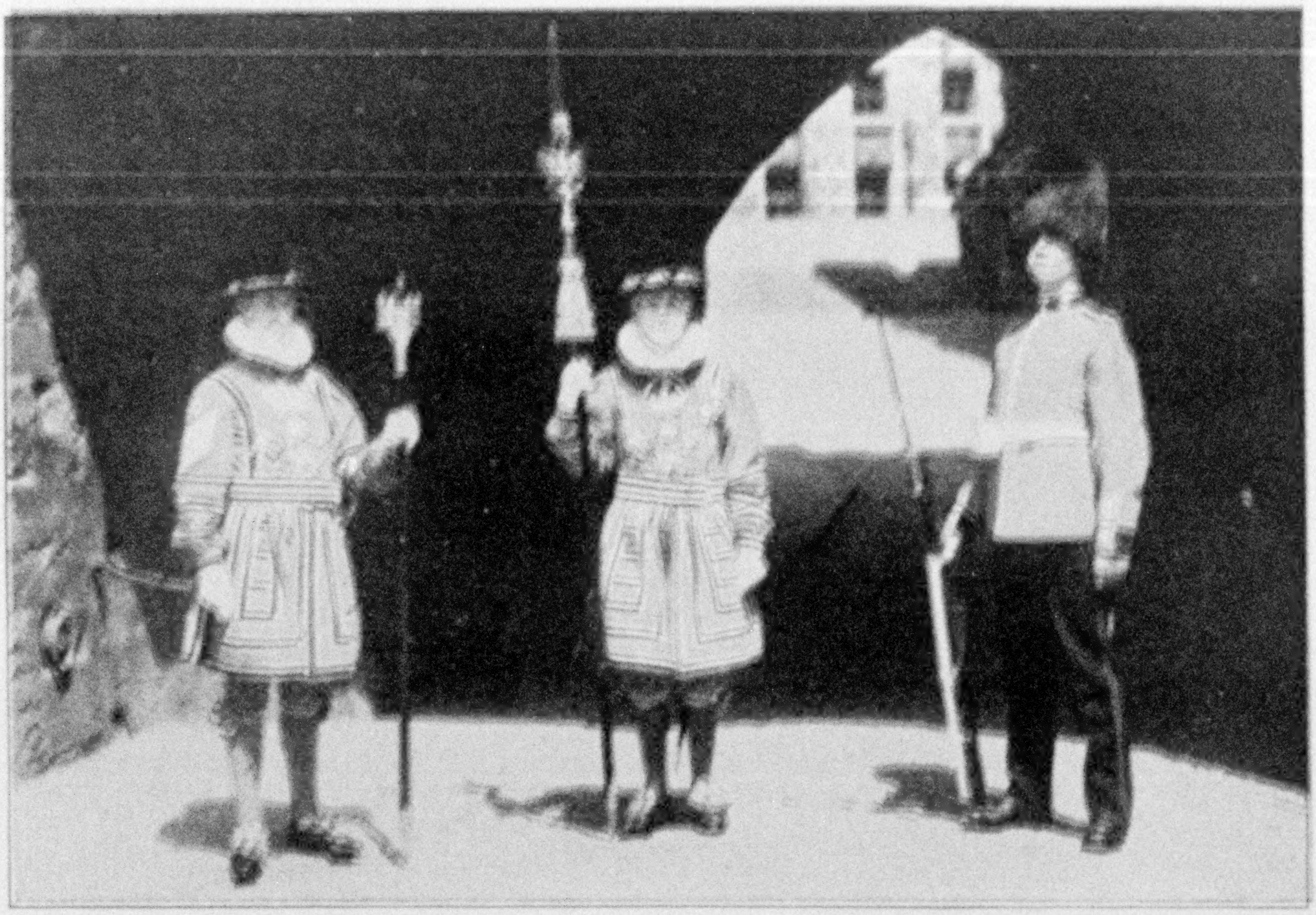
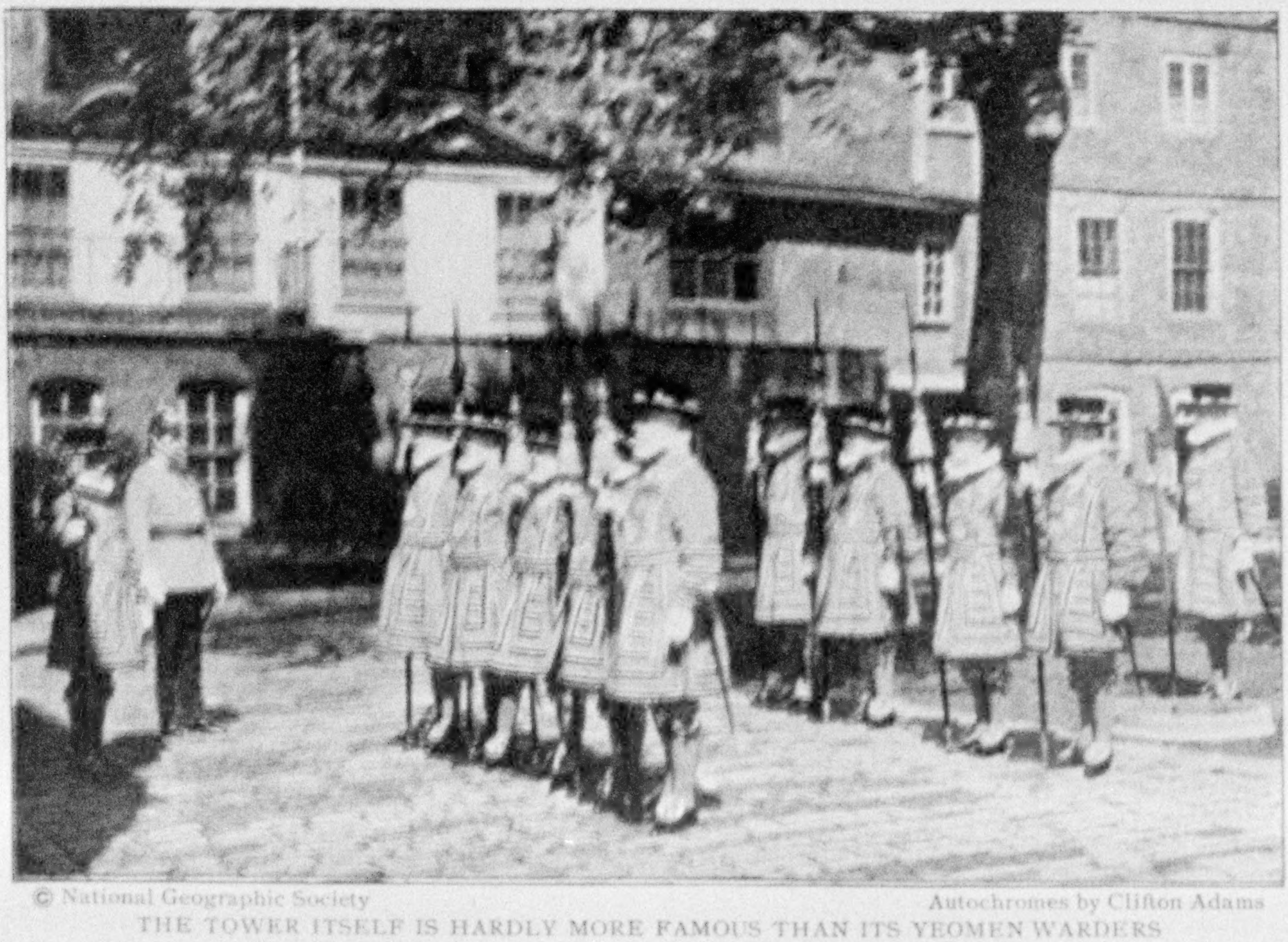
BRITAIN'S AGED WARRIORS, WARDS OF THE NATION, BASK IN THE SUN AND FIGHT THEIR BATTLES OVER AGAIN

The Chelsea Hospital for old and invalided soldiers was founded by Charles II at the instigation, it is traditionally asserted, of Nell Gwyn. The more than 500 Chelsea Pensioners wear coats of scarlet in summer and dark blue in winter. Some of them still retain the three-cornered hats of other days. Long service and an excellent record are requirements for admission to their honorable ranks.



HERE MEDIEVAL TRAPPINGS SURVIVE ALONGSIDE MODERN UNIFORMS

The Chief Warder of the Tower of London (see Color Plate VI), on the left, carries a mace topped with a miniature model of the White Tower. At the right is a Coldstream Guardsman, member of the military garrison; in the center a Yeoman Warder. They are standing under the Bloody Tower.



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THE TOWER ITSELF IS HARDLY MORE FAMOUS THAN ITS YEOMEN WARDERS

The Governor, in military uniform, and the Chief Warder (see above), have assembled a part of the company of Yeomen preparatory to attending divine service. The members of this ancient organization, all army sergeants of distinguished service, are familiarly but erroneously called "Beefeaters."

THROUGH THE ENGLISH LAKE DISTRICT AFOOT AND AWHEEL

BY RALPH A. GRAVES

AUTHOR OF "THE GRANITE CITY OF THE NORTH," "A SHORT VISIT TO WALES," ETC., ETC., IN THE NATIONAL GEOGRAPHIC MAGAZINE

With Illustrations from Photographs by Clifton Adams, Staff Photographer

"IT is *too* bad that you should see the Lake District under such unfavorable circumstances," said the solicitous hostess at the commodious Lodge in Grasmere. "This drought has caused many of our loveliest waterfalls to disappear and our precious flowers are perishing."

"How long has the drought lasted?" inquired the sympathetic staff photographer.

"This is Friday, isn't it? We haven't had any rain since Monday," replied the Lake District apologist with much the same air of personal responsibility for untoward weather conditions that the true Californian adopts when a visitor's good opinion of that State is at stake.

But the "distressing drought" came to an end a few hours later. Saturday morning the Rain God once more was in his heaven and all was right with the Lake District world.

It is indeed a rare day in June—or July, or August—when some rain does not fall in that famous scenic beauty spot of England, so generously and continuously moistened by the mists from the Irish Sea.

No other area of similar extent in the British Empire has been so much vaunted by poets and nature lovers. It provides an unanswerable argument to those who think of beauty always in terms of the grandiose. Many statistically minded persons are surprised to find that of all the 16 lakes, or "waters," as they are here designated, only one is as much as 10 miles long, and the most famous of them, Grasmere, seems hardly larger than a good-sized swimming pool, with a mere speck of land in the center for an island.

The highest of the District's 60 important peaks would rise only halfway to the summit of Mount Washington, New Hampshire, while the extravagantly admired Old Man of Coniston, if piled upon itself five times, Ossa-on-Pelion fashion, would not reach the brow of Mount Whitney (see page 583).

But where else in all the world can one find in a sweep of the eye such a varied panorama as from the shores of Coniston, or from Kirkstone Pass?

On the slopes surrounding Grasmere, Derwent Water, and Ullswater the visitor frequently sees stretches of parklike trimness and ordered loveliness; amid the somber beauty of distant Wast Water he may encounter one of those majestic, almost terrifying, scenes when "the wild wind drives the crested foam far up the steep and rocky mountain, and booming echoes drown the voice" of countless cascades.

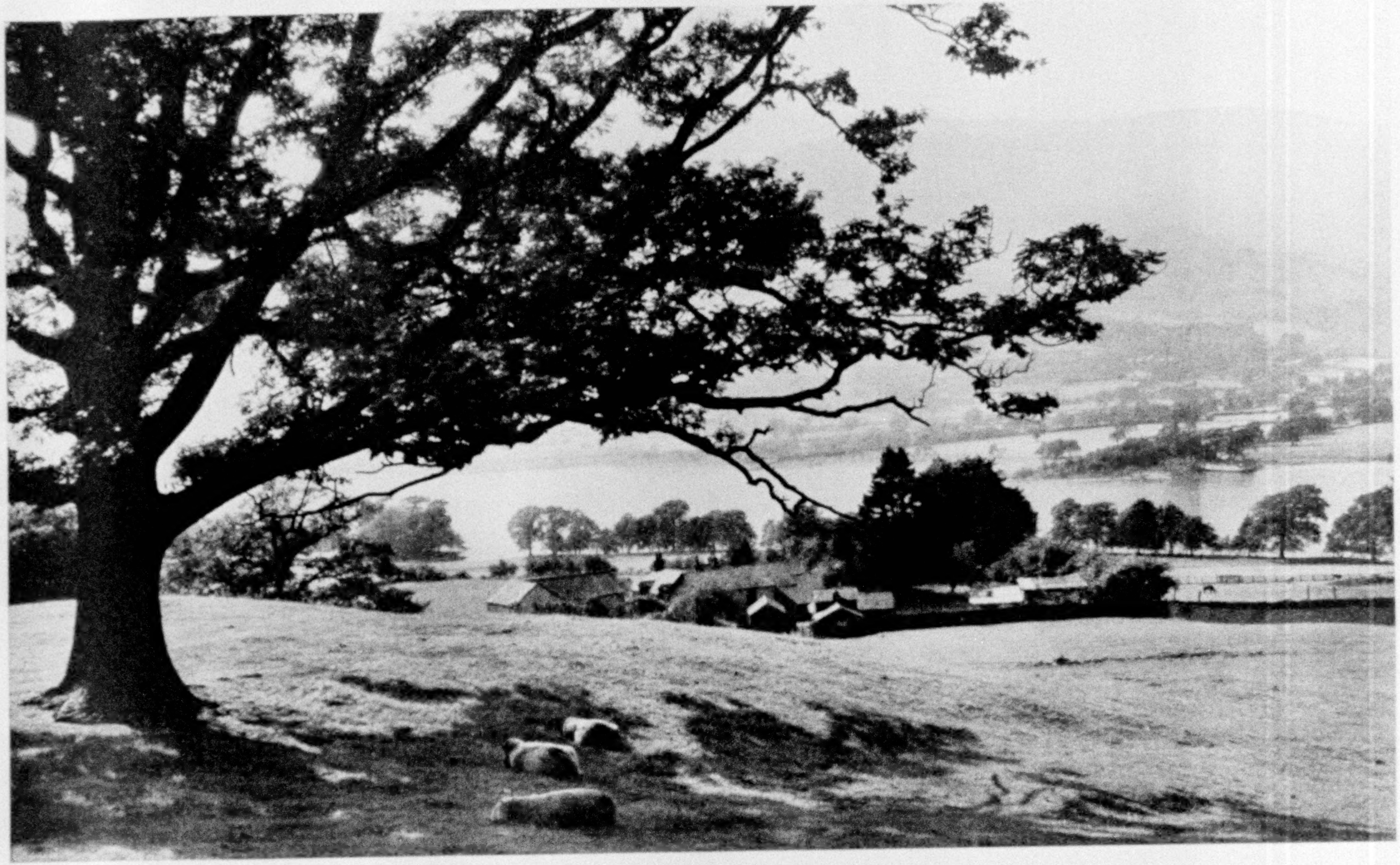
It is not the extremities of height or depth or expanse which distinguish the vistas of the Lake District, but the kaleidoscopic changes, the juxtaposition of rugged bowlders with sweeping curves of pasture land and upland fell, the shimmer of myriad waterfalls, the glow of countless wild flowers in a verdant carpet of ferns, and the sparkle of ruffled waters—sapphire or turquoise blue, emerald or onyx black, according as the shadow of cloud or peak falls upon them—that have inspired the Wordsworths, the Southeys, and the Coleridges.

In Nature's scenic casket there are many more magnificent jewels, but few with so many brilliant facets.

CHOOSING A BASE FOR EXCURSIONS

When a prospective visitor to the Lake District is so unwise as to consult friends about the most desirable base from which to take his jaunts afoot and awheel, he is overwhelmed with earnest advice. Each enthusiast has his favorite center and he brooks no compromise or second choice.

The newcomer is told that he must establish his headquarters at Keswick, because of its favorable location at the apex of the region and because of its intimate association with the gifted poet and incomparable letter-writer, Southey.



CONISTON WATER FROM NEAR BRANTWOOD, THE HOME OF JOHN RUSKIN

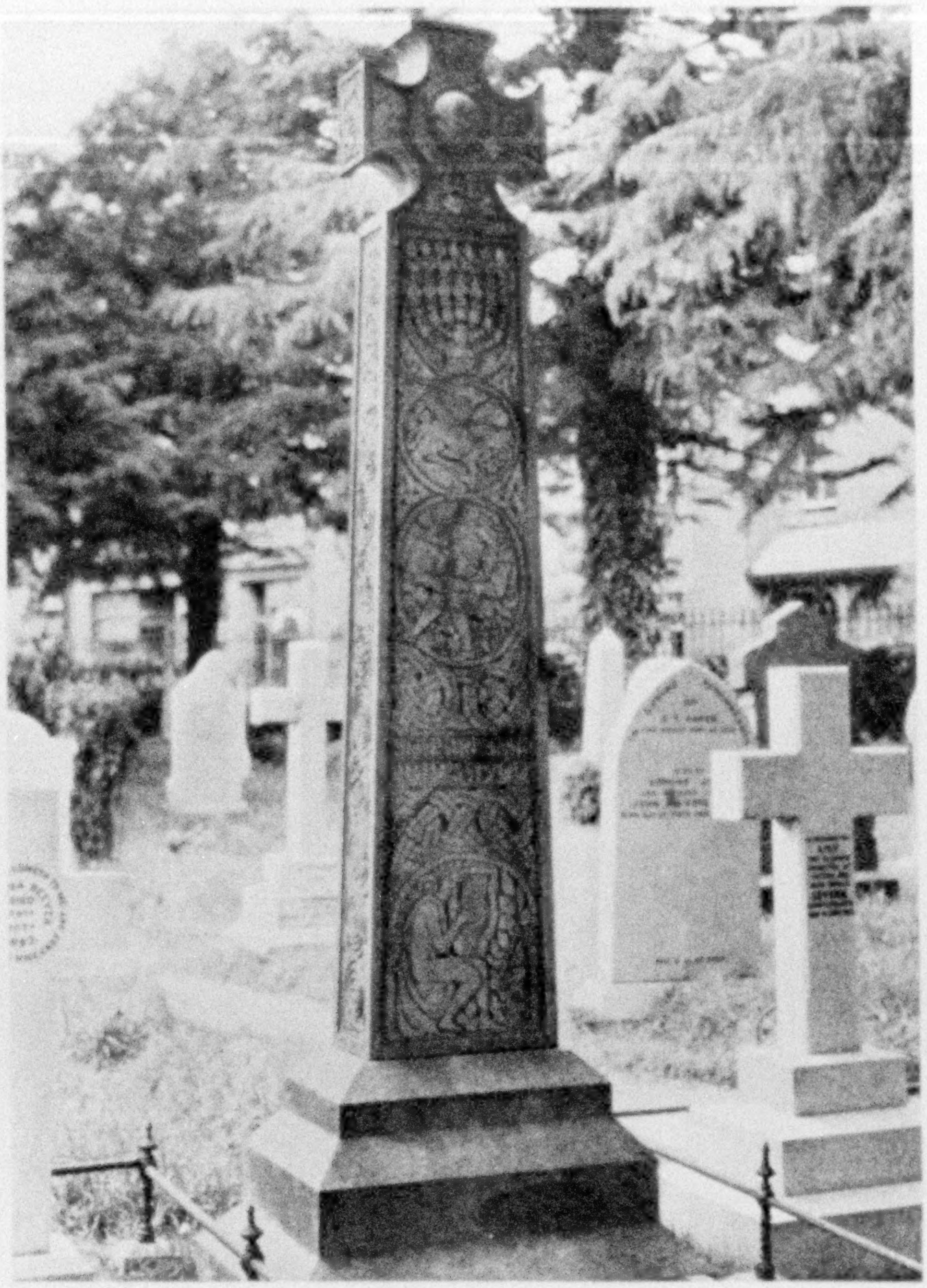
For more than a quarter of a century Ruskin resided at Brantwood, near the northern end of Coniston Water (see, also, illustrations, pages 580 and 583).

THE BEST WAY TO SEE THE LAKE DISTRICT

Girl hikers setting out early in the morning from Ambleside for a climb to Kirkstone Pass.

STOCK GILL TAKES A LEAP

Stock Gill Force (waterfall) is one of the many lovely cascades in the vicinity of Ambleside.



A RUNIC CROSS MARKS JOHN RUSKIN'S GRAVE

To find this shrine the visitor has only to follow the beaten path through the churchyard of Coniston, indelibly associated with Ruskin, who died at Brantwood, near by (see page 578). On the monument are chiseled symbolic representations of the author's principal works. The town is proud of its Ruskin Museum, which contains many original manuscripts, sketches, and personal belongings of Ruskin.

From another friend he learns that it is foolish to consider any other temporary tourist home than Grasmere, where Wordsworth, the poetic Lion of the Lakes, lived, loved, and dreamed. Yet another waxes eloquent over the peculiar charms of Coniston, in whose little churchyard a Runic cross marks the grave of John Ruskin, who spent the last peaceful decade of his 81 years at near-by Brantwood. One needs no diagram as a guide to this hallowed spot, for a well-worn path leads directly from the cemetery gate to the last resting place of the author of "The Crown of Wild Olive" and "The Stones of Venice."

Other advisers insist upon Windermere because of the comfort afforded by its numerous sophisticated hotels and modern apartments (see map on opposite page).

So, unable to choose in the light of this wealth of conflicting advice, we established ourselves entirely outside the Lake District, but on its southern border, in the delightful seaside resort of Grange-over-Sands. Here, when the tide goes out, there is an expanse of beach the like of which is scarcely to be found elsewhere in the British Isles, except, perhaps, in those tragic Sands o' Dee which Kingsley has immortalized.

From Grange, day after day, we made our excursions by means of open motor coaches to all parts of the Lake District. Since the World War these lumbering conveyances have almost completely displaced the picturesque horse-drawn chars-à-bancs, which formerly shuttled back and forth, to the sound of the coachman's horn, through this region, as well as in the Lorna Doone country, the highlands of Wales, the Trossachs, and other sight-seer's paradises of Great Britain.

WE ELECT TO RIDE WITH THE BRITISH

After a few excursions we became so accustomed to the recurring showers that we began to shun those coaches in which we recognized fellow-Americans, for we found that we could enjoy the scenery to greatest advantage when riding with the rain-immune Britishers.

It is the practice of the operators of the coaches to take a vote on whether or not the top shall be raised when a hard shower threatens. Those Americans who are spending only a few days in the District, and consequently are seldom provided with the type of rain-resisting garments worn by the natives, invariably vote for "top up"; the British invariably vote "top down."

It is the "top-downs" who get the full beauty of the clouds racing over the peaks, the touch-and-vanish glory of shadow and sunshine on fell and waterfall, the full charm of black waters swept by silver sheets of rain.

A VOYAGE UP WINDERMERE

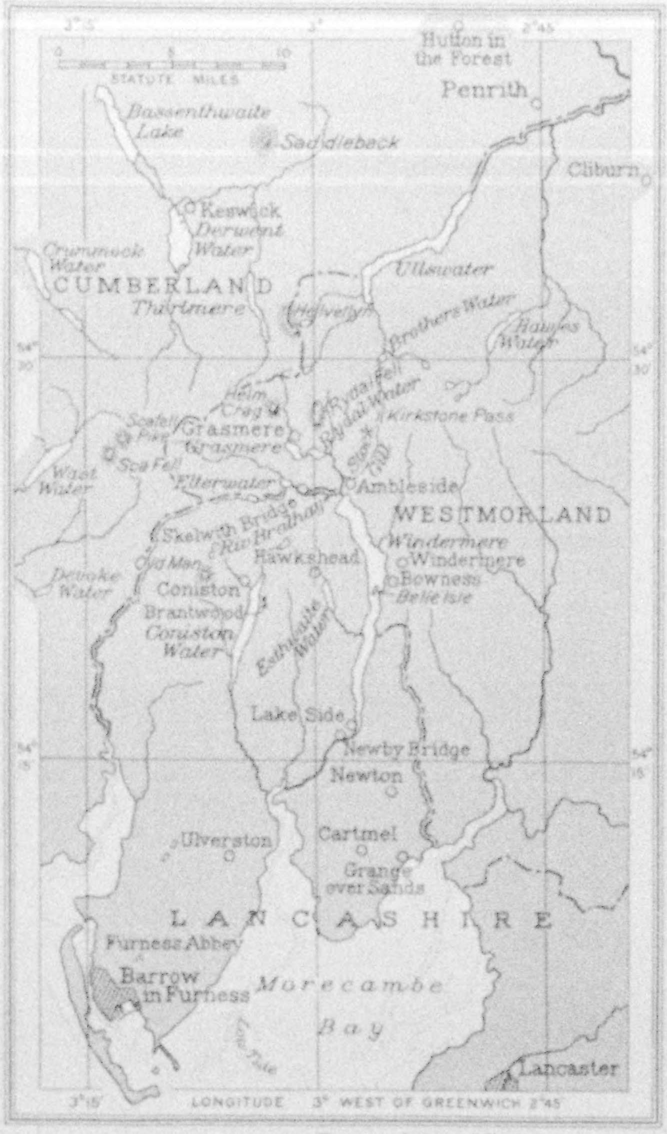
One unforgettable day we took the Windermere steamer from its southern tip at Lake Side. The morning mists still shrouded both shores of this mile-wide finger of water, which extends between rolling hills clad in marvelous firs, beeches, and evergreens, with the varnished leaves of holly conspicuous on every wooded slope.

As we were among the first on board, we were able to get seats in the bow. This is a wise precaution; otherwise one's view is apt to be obscured, not to say obliterated, by a screen of broad shoulders and flapping mackintoshes.

A feature of the lakeshore landscape which impresses the New World visitor is that there are so few large estates to be seen. In the United States, a region so accessible to centers of population and with so many scenic advantages would be dotted with pretentious villas, summer cottages, and boy and girl camps, but on Windermere's ten-mile stretch Nature seems to have remained largely untouched by man, save where a pier is thrust out into the water by an occasional small resort hotel half buried in trees.

The lake's forests yield much of the wood for the millions of bobbins used in England's great textile mills, but reforestation is so skillfully pursued that no scars mar the hillsides.

Halfway up the lake is attractive Bowness, the waterfront entrance to the town of Windermere, and just opposite its pier, almost blocking the channel, is Belle Isle, the scene of one of the most gallant episodes in the stormy life of a picturesque major of Parliamentary War times, familiarly known as Robin the Devil.


3°15'
3°
2°45'
0
5
10
STATUTE MILES
Hutton in the Forest
Penrith
Bassenthwaite Lake
Saddleback
Cliburn
Keswick
Derwent Water
Crummock Water
CUMBERLAND
Thirlmere
Helvellyn
Ullswater
Brothers Water
Haweswater
54° 30'
Helm Crag
Rydal Fell
Rydal Water
Kirkstone Pass
Scafell Pike
Grasmere
Grasmere
Sca Fell
Wast Water
Stock Gill
Elterwater
Ambleside
WESTMORLAND
Skelwith Bridge
Riv. Brathay
Old Man
Hawkshead
Windermere
Windermere
Bowness
Belle Isle
Devoke Water
Coniston
Brantwood
Coniston Water
Esthwaite Water
Lake Side
54° 15'
Newby Bridge
Newton
Ulverston
Cartmel
Grange over Sands
LANCASHIRE
Furness Abbey
Barrow in Furness
Morecambe Bay
Low Tide
Lancaster
LONGITUDE 3° WEST OF GREENWICH

Drawn by A. H. Bumstead

THE LAKE DISTRICT OF ENGLAND

Three counties — Cumberland, Westmorland, and Lancashire—share the beauties of this famous scenic region (see, also, inset map, page 532).

At the northern end of Windermere a fleet of vehicles meets each incoming steamer to convey the passengers one mile to charming Ambleside, and thence on a score of excursions in every direction.

THE CLIMB TO KIRKSTONE PASS

A notable circuit tour climbs up the valley of a little stream with the quaint name of Stock Gill. As the motor labors in low gear on the steep ascent to Kirkstone Pass, the traveler has time to enjoy the matchless panoramas that extend on every side. On the right, the fells, bare of all trees, are clad with yellow-green turf, strongly

"COMPOSED WITH NATURE'S FINEST CARE"

Looking north toward the Keswick road and Helm Crag from a point on the grounds of Allan Bank, the Grasmere house where Wordsworth lived for a time after he moved from Dove Cottage (see text, page 588).

accented here and there with patches of blue-green bracken (ferns). Stone fences run hither and yon, twisting uphill and slashing through dale with crisscross patterns—broad black lines against a sheet of green, as if some giant had amused himself by making geometric figures with a Gargantuan crayon.

Silver ribbons and threads of waterfalls decorate the rocks and crannies and finally lose themselves in the blue-black waters of Lilliputian lakes hiding in the hollows of cloud-swathed hills.

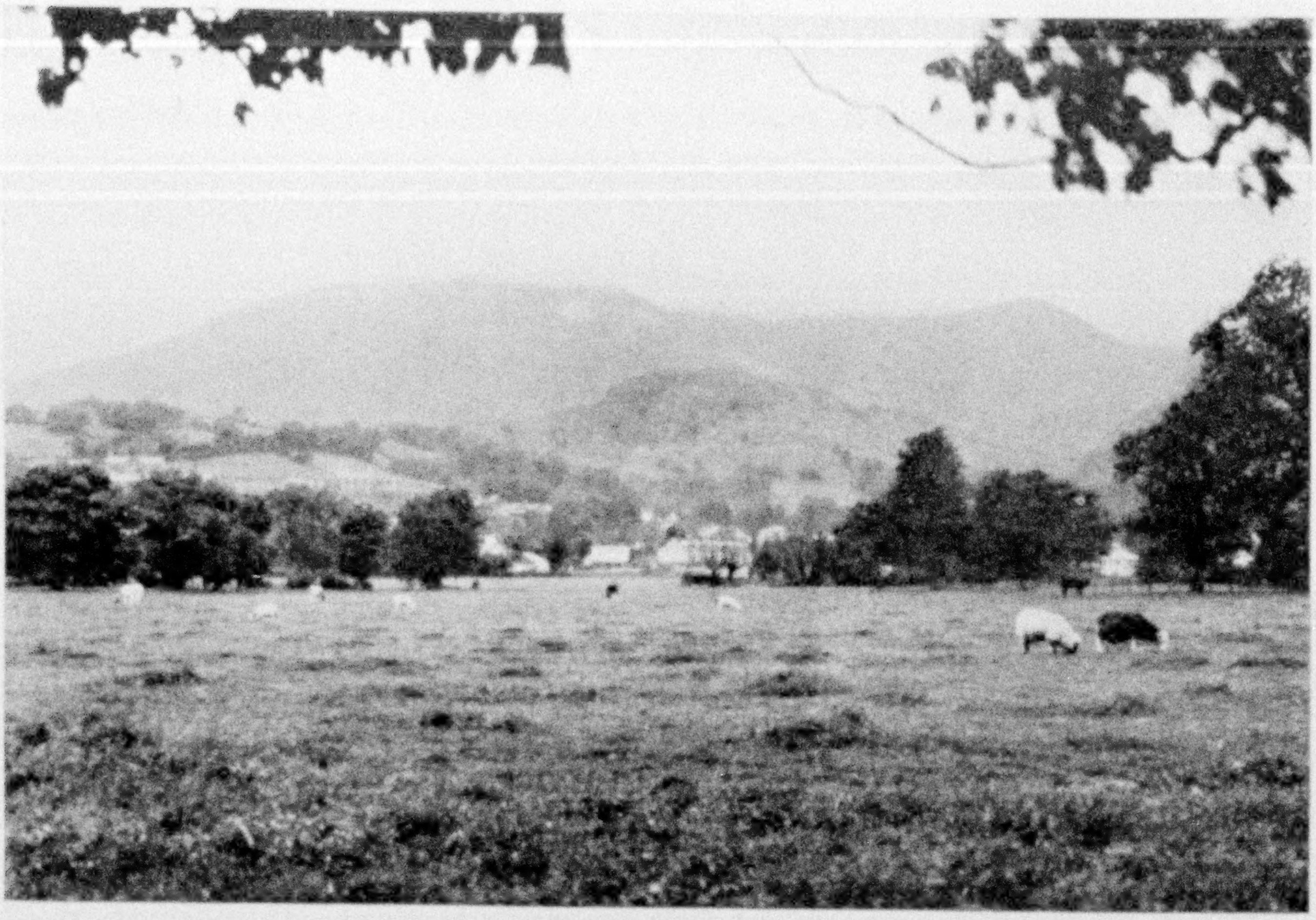
Everywhere the landscape is vitalized by black-faced sheep, singly or in flocks, forever cropping, cropping, cropping the rich grass. They melt into the hillsides and are scarcely distinguishable from the bowlders among which they graze—an instance of one of Nature's wasteful provisions of protective coloration, as if sheep needed to conceal themselves from their watchful owners!

As we descend from the pass, we come upon a tiny basin—Brothers Water—encircled by a greensward across which run numerous stone fences in straight lines, giving the illusion of great slips where ocean liners might dock.

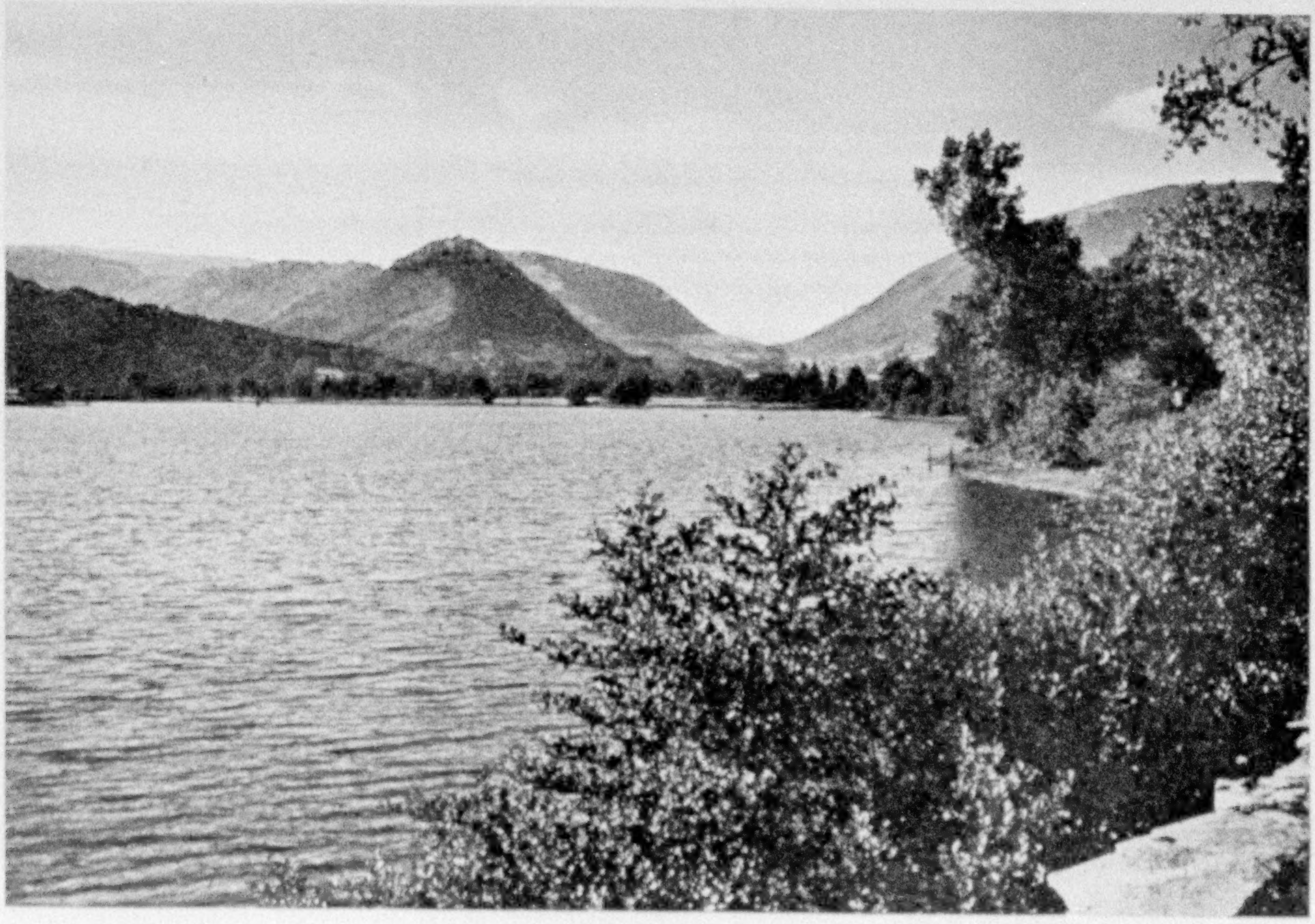
THE WHOLE LAKE DISTRICT IS A FLOWER GARDEN

In every dell and along all the highways of the Lake District there are countless flowers—the pink and magenta trumpets of the foxgloves, the glistening yellow bowls of tiny buttercups, the nodding lavender plumes of thistles, delicate lace flowers, honeysuckles, airy harebells and a ubiquitous pink blossom shaped like our bluet. In some places myriad buttercups spread a living carpet of gold. One wonders if it was of this diminutive flower that Wordsworth was thinking when he wrote:

> To me the meanest flower that blows can give
> Thoughts that do often lie too deep for tears.

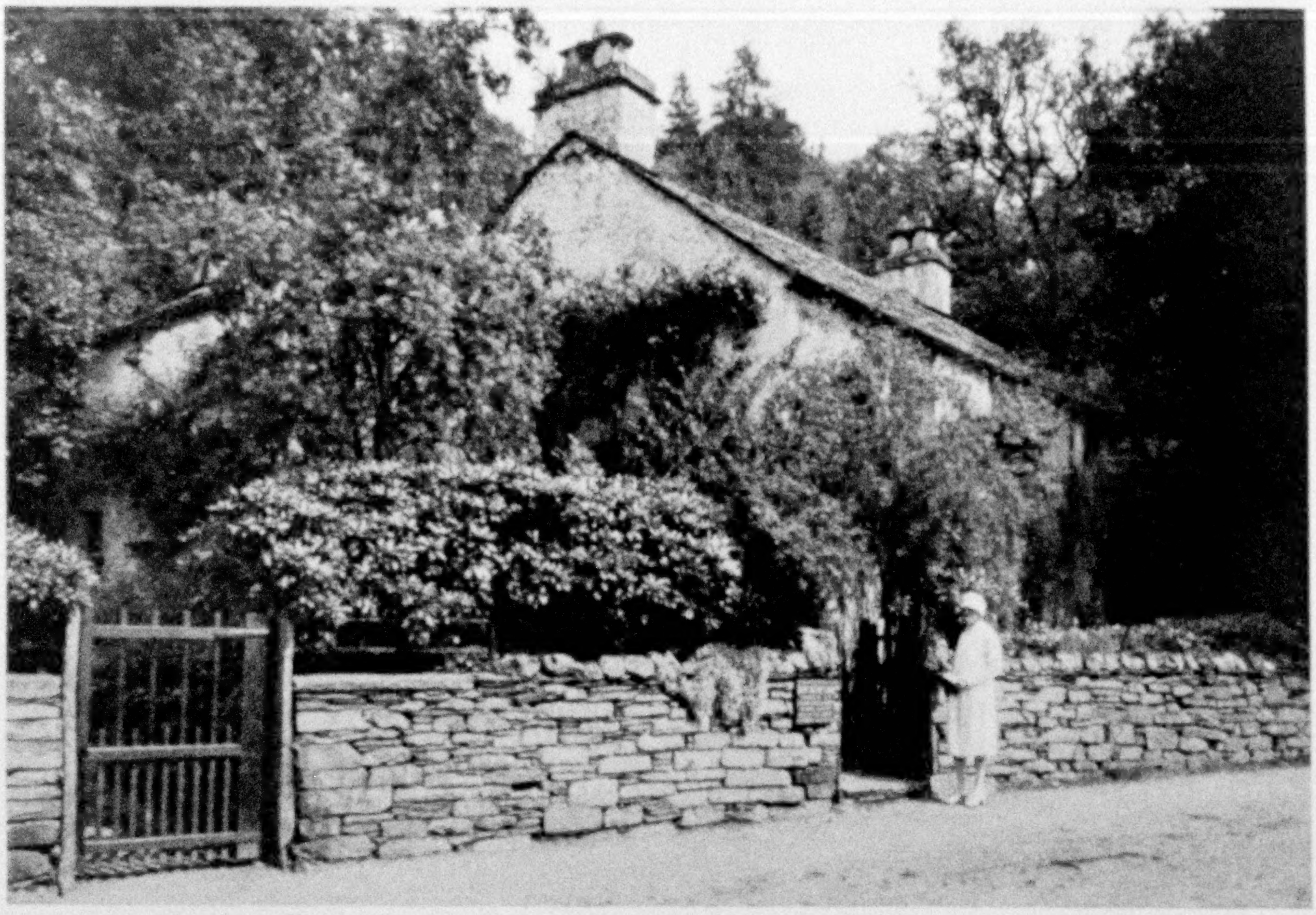


"OLD MAN OF CONISTON" SHROUDED IN HIS USUAL SUMMER RAINSTORM



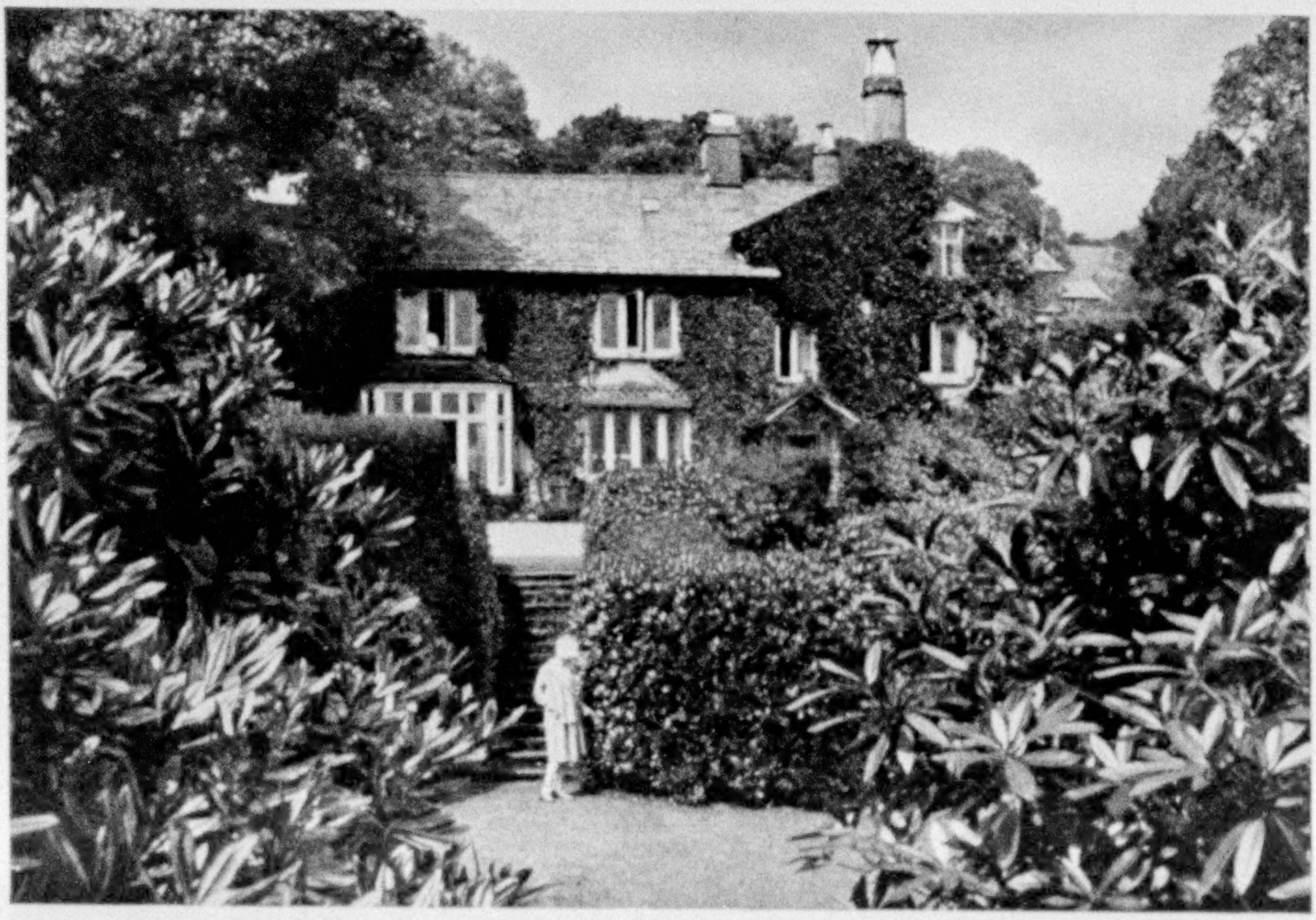
GRASMERE BREATHES A SPIRIT OF TRANQUIL BEAUTY

Although there is nothing of a very spectacular nature about the lake, the village, or the surrounding hillsides, together they create a scene of quiet but unusual beauty which makes a lasting impression on the memory of those who visit it. The gray-walled village stands at some distance from the lake.



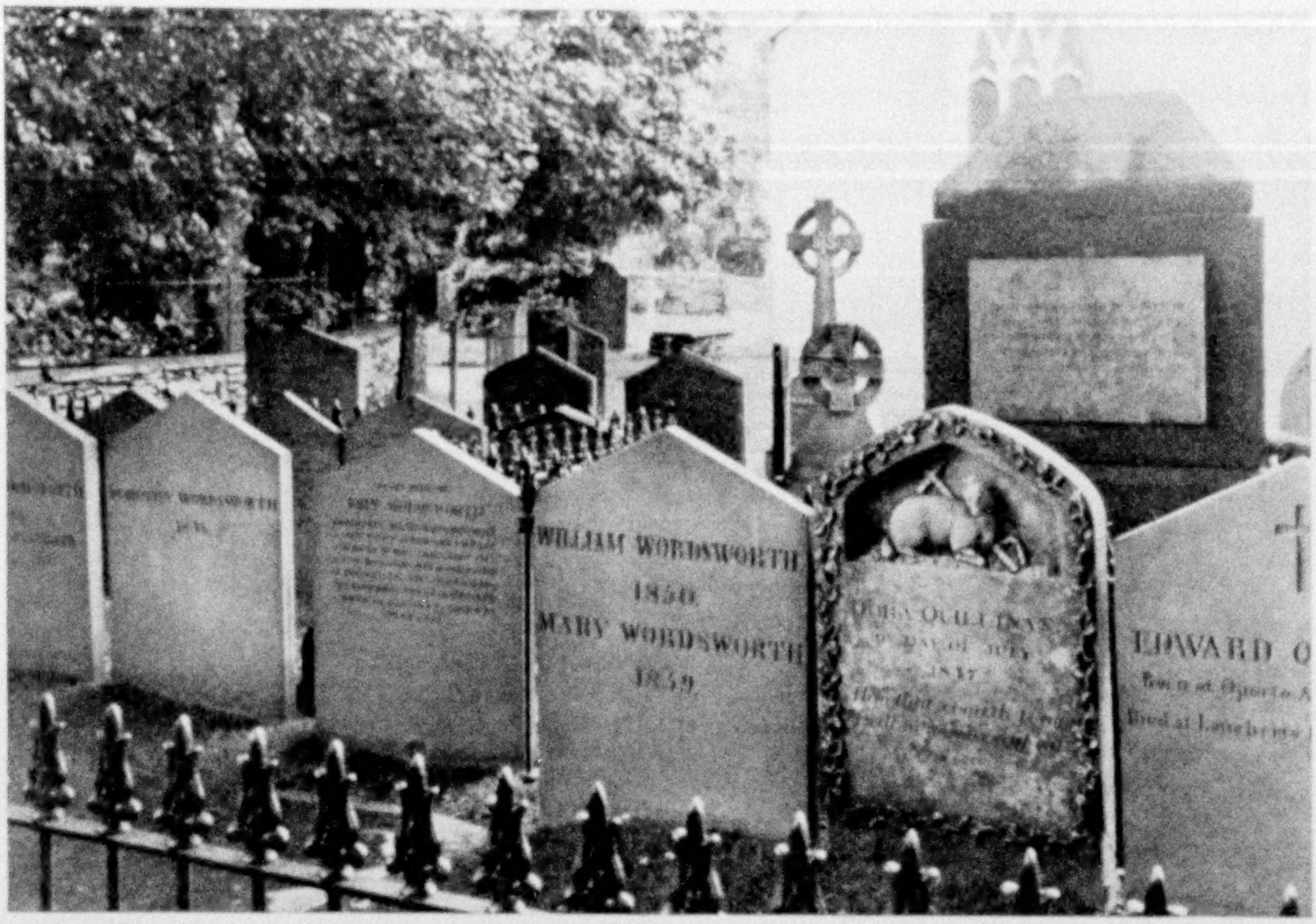
DOVE COTTAGE, ON THE OLD WISHING GATE ROAD

Many of the noblest poems that enrich English literature were written in this humble cottage, to which William Wordsworth brought his bride in 1802.



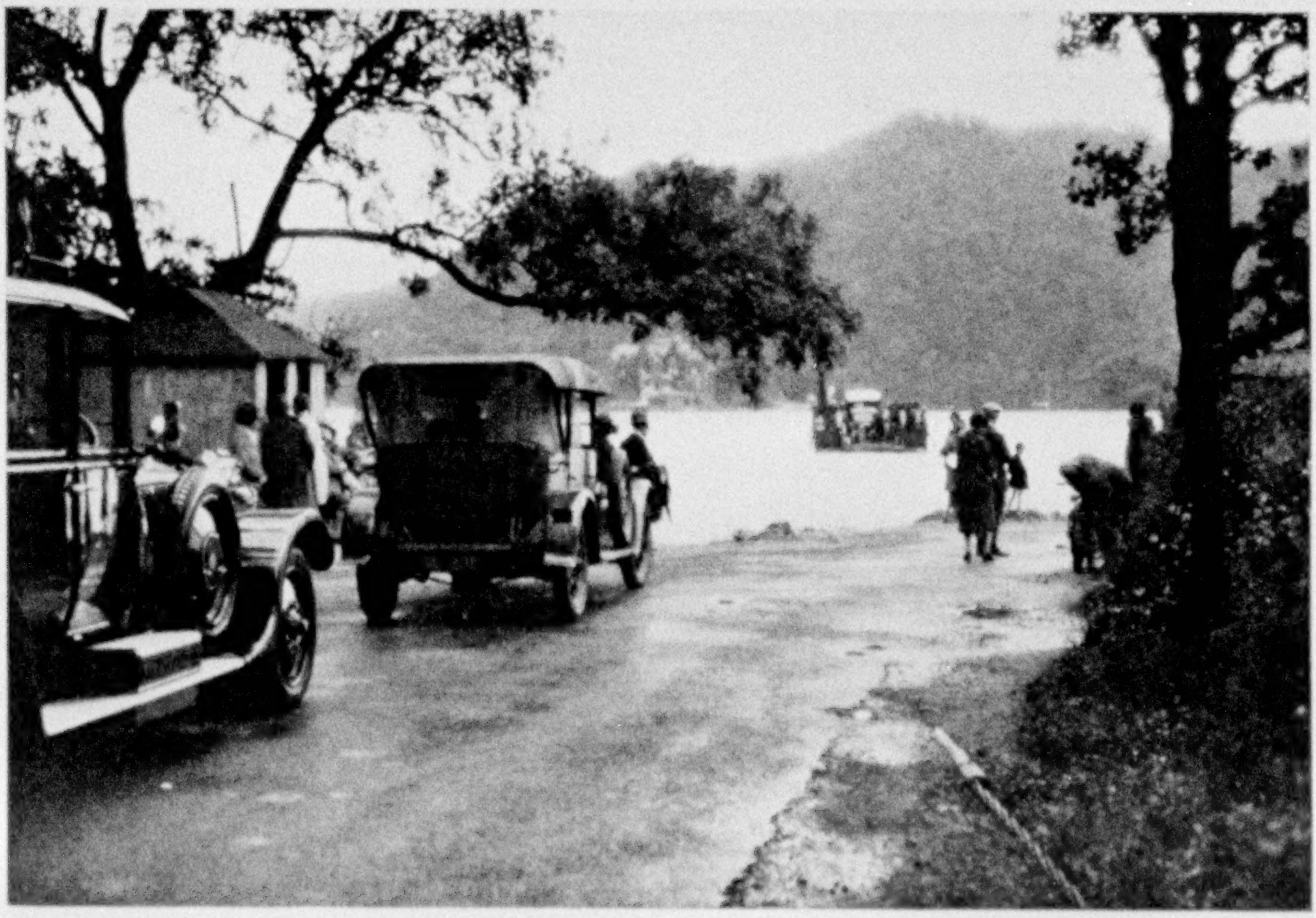
RYDAL MOUNT IS BOWERED IN RHODODENDRON

This was Wordsworth's home after his Dove Cottage and Allan Bank days (see illustration above and text, page 588). The relics of the poet formerly kept here have been dispersed.


WILLIAM WORDSWORTH
1850
MARY WORDSWORTH
1859
EDWARD

THE WORDSWORTHS REST AT GRASMERE, UNDER THE YEWS OF THE RUSHING ROTHAY

A simple slab marks the resting place of the illustrious poet and his wife in this churchyard cemetery, "surrounded by the everlasting hills."



SUMMER TRAVELERS WAITING TO CROSS WINDERMERE

The ferry is pulled back and forth across the lake on chains. It is well patronized during the summer and can accommodate 25 people and three automobiles at a time.

A HAY-MAKING SCENE ON A SUMMER AFTERNOON NEAR WINDERMERE

Nor does the open countryside monopolize floral beauty. In the Newlands Terrace gardens of our lodgings at Grange, phlox, ageratum, cyclamen, pansies, and their cousins the velvety violas, cosmos, carnations, dahlias, sweet peas, roses, poppies, nasturtiums, snapdragons, and marigolds blossomed in profusion. On a lawn at Grasmere we marveled at three immense disks of ambient flame composed of begonias the size of chrysanthemums. Their petals were as thin as tissue, with the clear, waxy texture of camellias. On top of a garden wall some one had scattered a few thimblefuls of earth, from which glowed a lovely fringe of copper-colored nasturtiums.

WHERE THE POET SAW THE HOST OF DAFFODILS

Beyond Brothers Water we motored along close to the beach of Ullswater, considered by many connoisseurs the most beautiful of all the lakes, and supported in that opinion by the fact that on its shores Wordsworth found inspiration for one of his most famous nature lyrics, beginning,

> I wandered lonely as a cloud
> That floats on high o'er vales and hills,
> When all at once I saw a crowd,
> A host, of golden daffodils;
> Beside the lake, beneath the trees,
> Fluttering and dancing in the breeze.

From Ullswater we swung through Penrith and turned back toward Ambleside by way of Southey's Keswick. We looked down from the high road upon the long black sliver of Thirlmere, from which the great manufacturing city of Manchester derives its main water supply. Millions of gallons flow daily from this lake for more than 95 miles over one of the world's longest aqueducts (see Color Plate XII and illustration, page 602).

One afternoon, while the artist member

of our twosome sought valiantly to overcome her disinclination for the companionship of placid but curious creatures of the pasture, as she transferred to canvas some of the beauties of a rose-clad cottage, I wandered down the highway, along the shores of Grasmere, in the direction of Dove Cottage (see illustration, page 584). Here Wordsworth had lived with his beloved sister, Dorothy, before his marriage, and here he brought his bride after the honeymoon, on which Dorothy had accompanied them.

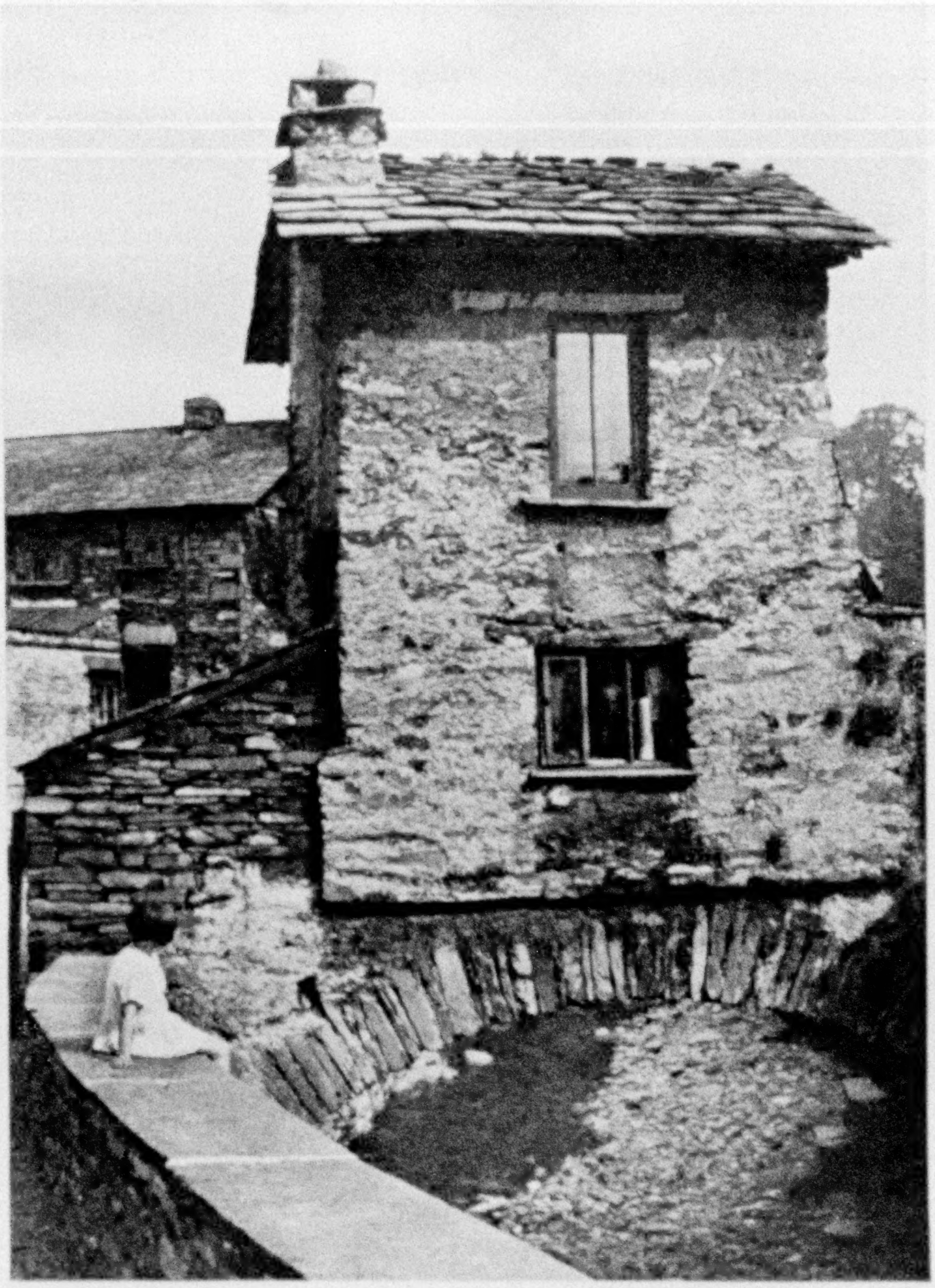
AT DOVE COTTAGE, WHERE WORDSWORTH BROUGHT HIS BRIDE

One is fortunate when he can see Dove Cottage just before the circuit-tour motor coaches arrive or just after they depart, for it is so small that even three or four sightseers within its hallowed precincts seem a crowd. At the hour of this particular visit it was all my own, except for the two watchful persons always on duty.

One feels inclined to tiptoe through the tiny cell-like rooms when he recalls that it was here that the ode on "Intimations of Immortality," "She Was a Phantom of Delight," "Michael," parts of "The Excursion," and many of the nature poems, including "Daffodils", were written during eight fruitful years—two while the poet was living with Dorothy and six after he had brought Mary Hutchinson here as his wife, in 1802.

The guest room of Dove Cottage is a cubbyhole about six feet square. It was here that the Wordsworths entertained Scott a century and a quarter ago, and it is still known as the Sir Walter Scott room. One marvels that six people could have lived in such a diminutive home, for there were then three children—two girls and a boy. Dorothy kept the two older children downstairs with her, while the baby slept with its parents.

The kitchen, with a small pane of glass near its low ceiling, resembles a coal bin, and the cramped dining room does not suggest that the Wordsworths were lavish entertainers. How could they be on an income equivalent to $400 a year, or how could one expect palatial accommodations for an annual rental of $40!



BRIDGE HOUSE CATCHES EVERY PASSING EYE

The astute owner has capitalized the unique location of his Ambleside cottage by converting it into a souvenir shop (see, also, Color Plate XV).

SES
TO
BEY
3/10
3/1
2/11
SO TO
TON,
OUGHTON
SPORTS
POOLEY BRIDGE
SATURDAY, 25th AUGUST, 1928
£250
£92
WRESTLING
THE LONGRIDGE PRIZE BAND
Compston Road, AMBLE
VALE OF RYDAL
SHEEP DOG
TRIALS
IN RYDAL PARK
On WEDNESDAY, August 22,
Sheep Dog Trials
HOUND TRAIL AT 2·30
CONISTON FOOTBALL CLUB
EIGHTH ANNUAL
SPORTS
ON SATURDAY, AUG. 18. 1928.
A. At Heathwaite, 3 p.m.
1. HOUND TRAIL
B. In Institute Field, 4 p.m.
ATHLETIC SPORTS
C. At Shepherd's Bridge, 6 p.m.
PUPPY TRAIL.
WATER
AY, AUG. 1928
£100
Queen's Pavilion, Ambleside
Commencing Monday, Aug. 20th.
Exhibition
and Sale of
L M S
WINDERMERE LAKE

THE SHEEP-DOG TRIAL IS THE "NATIONAL SPORT" OF THE LAKE DISTRICT

These posters announce the annual August exhibitions of skill and intelligence of hounds and of sheep dogs. In the sheep-dog trials, dogs and masters assemble at an inclosure, part level and part hillside, in the center of which is a small sheepfold. Three sheep are then let loose, and each dog in turn endeavors to drive the perverse and unruly animals back into the fold, the one accomplishing this feat in the shortest time being declared the winner. The dog is guided in his efforts by signals which his master whistles to him.

But this toy house had and still has a charming adjunct—a garden which climbs up a hill immediately in the rear, so that one can sit under the apple trees on a miniature terrace, gaze over the smoke curling from the cottage chimney toward the blue waters of Grasmere and up the lovely fell beyond. It is a prospect to delight even the most prosaic eye. What inspiration it must have given the poet!

As one steps out of the house into the garden, it is necessary to stoop almost double to avoid the overhanging branches of a syringa tree which is much more than 100 years old, for it was planted by the poet himself. The apple trees of the garden, however, are a second generation, planted exactly where Wordsworth had set out the originals. The summer house on the terrace at the summit of the garden is made gay in season by the brilliant berries of mountain ash.

Except for the fact that his growing family necessitated the physical comfort of larger quarters, it seems a pity that Wordsworth should ever have moved from this spot to the Allan Bank cottage, then to the Rectory, and thence to Rydal Mount, lovely though it is, bowered in box, holly, rhododendron, lilac, and Irish juniper (see illustration, page 584). Shortly after the Wordsworths moved out of Dove Cottage, Thomas De Quincey, of "English Opium Eater" fame, moved in.

WORDSWORTH NOT EVEN A NAME TO THE RYDAL MOUNT CARETAKER

When I asked the caretaker at Rydal Mount, a few miles down the road, to tell me some of the traditions about the poet's life, he confessed that, though he was born in the neighborhood and had lived there all his life, he had never heard of Wordsworth up to the time of his employment by the present owner, 13 years ago. Today Rydal Mount has little to associate it with the poet except its lovely view of Grasmere and of Rydal Water over the

MAKING JUGS AT A POTTERY IN CLIBURN

The smooth clay is mined near this little Westmorland village on the fringe of the Lake District.

small, square tower of St. Mary's Church. The grounds are open to visitors only when the lessee is absent, and the house contains no Wordsworth furniture.

One returns with affection to Dove Cottage to take a final glimpse of the little cuckoo clock hanging above the stairs. Tradition says that exactly at noon one April day in 1850 the cuckoo crowed his announcement of the hour; then the clock ceased to tick, and at the same moment the heart of the great poet, 80 years of age, ceased to beat. They buried him in the little churchyard at Grasmere, beside the murmuring Rothay. Five years later his beloved Dorothy joined him, while Mary lingered yet another four summers and winters, to the age of 89 (see illustration, page 585). Wordsworth's daughter, Dora Quillinan, sleeps here, too.

TO THE SWAN AT NEWBY BRIDGE

On another occasion we renounced motor coach and "rainstick," as the Britisher calls his umbrella, and set out afoot from Grange for Newby Bridge, near the southern end of Windermere.

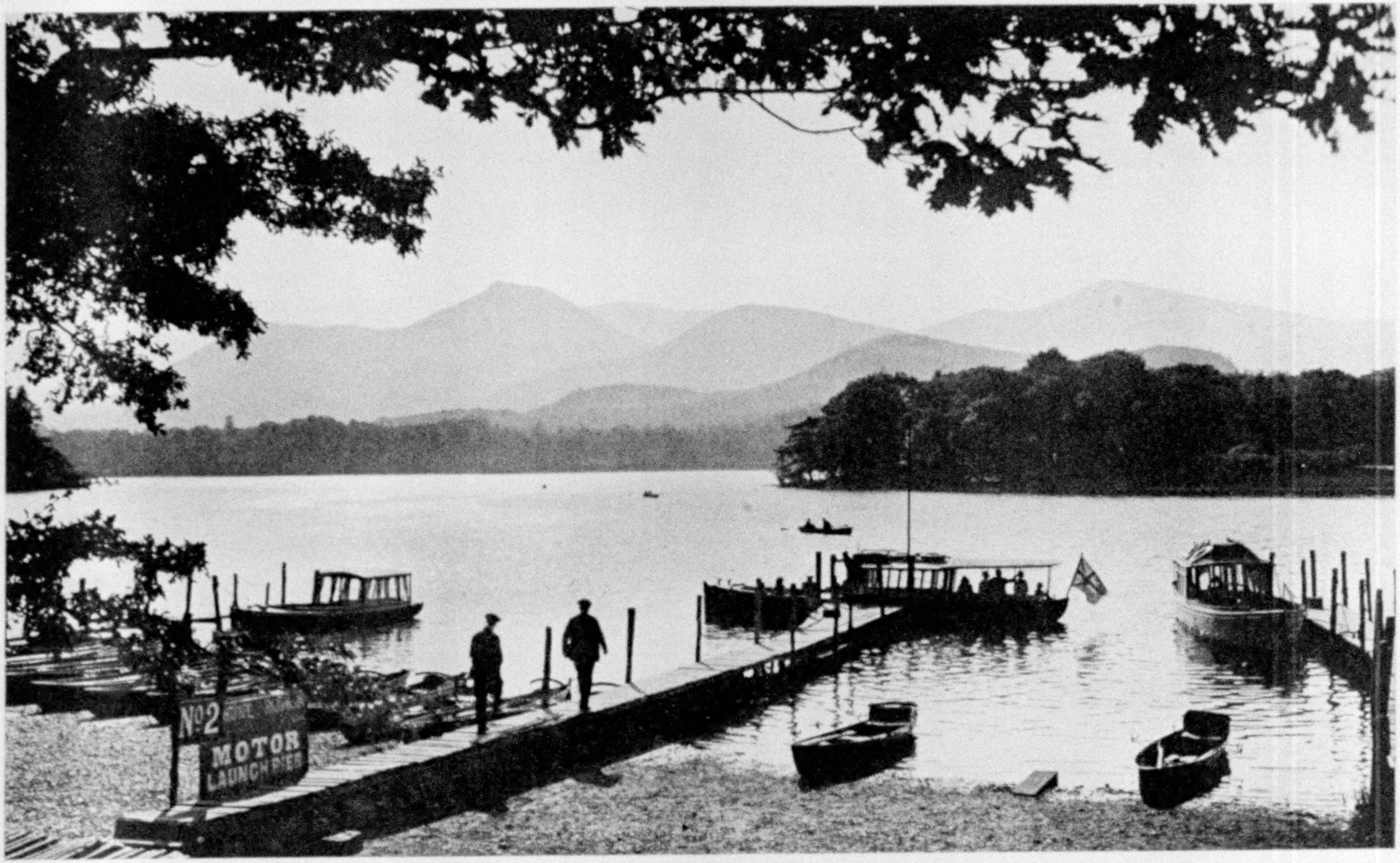
There were no clouds in the sky as we took the hawthorn-bordered highroad, but as we began to climb, the landscape darkened and, rising gaunt upon the horizon to the right, were outlined the gibbetlike ruins of Ellerhow, strongly suggestive of that grim gallows hill on the outskirts of Visby, yet probably of no similar sinister significance.

By the time we had reached the cottage or two designated as Nether Newton we were enveloped in mist, but we were confident that we could reach Higher Newton before the downpour.

No such luck! We sought shelter in the gloomy shade of a grove of firs while motor coaches and scurrying cyclists whirled past and sheep in the near-by pasture ceased to munch, but huddled together disconsolately.

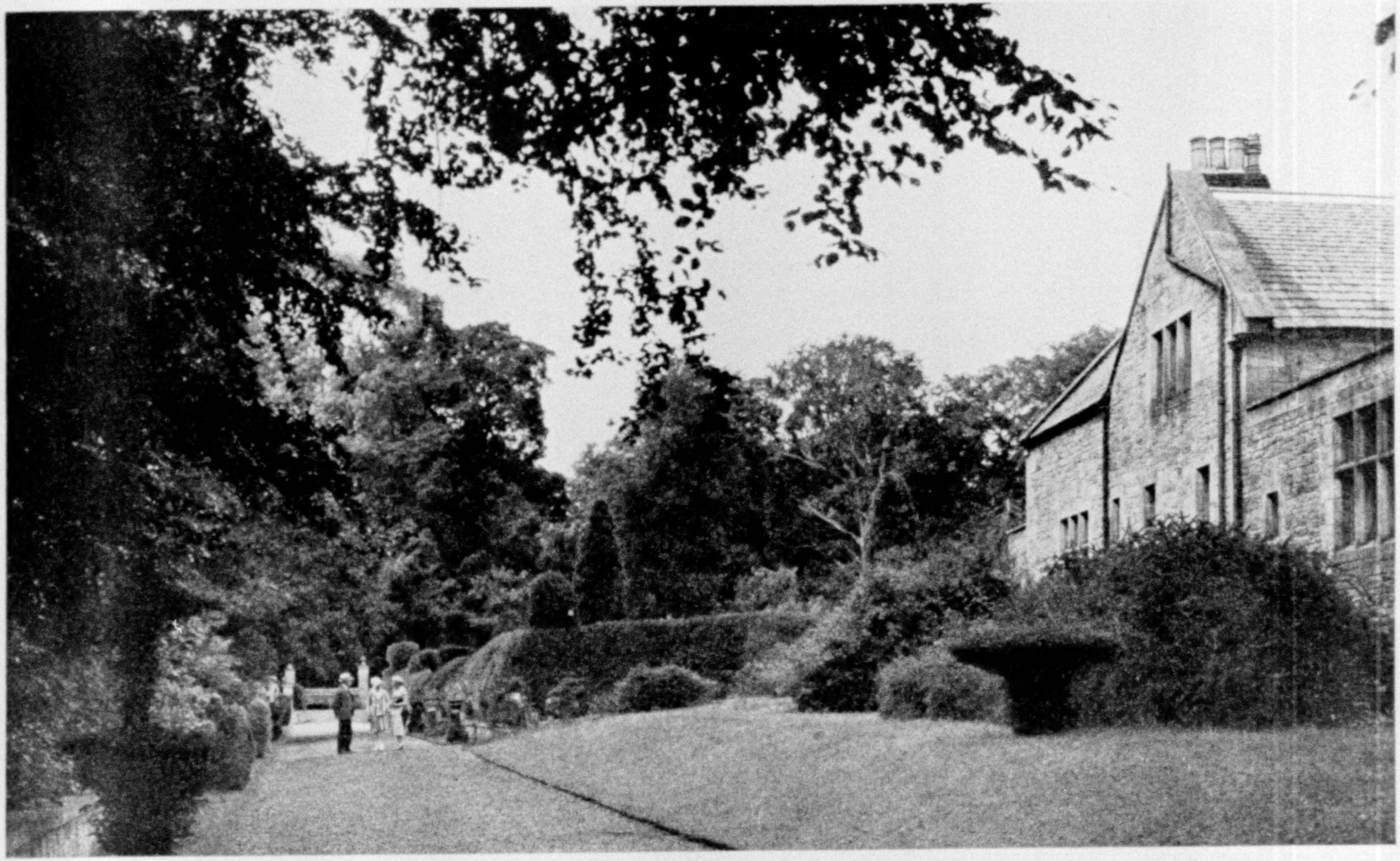
In a quarter of an hour the worst was over, and gayly swinging our walking canes we came upon a "tea" sign on the door of a two-room stone hut on the edge of the road.

"Here," we said, "we are going to find at last that place in England which we have been afraid of encountering during visits which have extended over a period



SUNDAY BOATING IS A POPULAR DIVERSION ON DERWENT WATER

Keswick, on the shores of Derwent Water, is a center for excursions in the Cumberland section of the Lake District. Near the northern end of this prosperous market town is Greta Hall, famous as the home of Coleridge and of Southey successively. After Shelley had eloped with his child wife, Harriet Westbrook, they visited the Southeys at Greta Hall.



THE BRITISH AMBASSADOR TO THE UNITED STATES FOUND SURCEASE FROM THE CARES OF STATE AT HUTTON-IN-THE-FOREST

Sir Esme Howard and Lady Isabella Howard (left and right in the roadway) graciously permitted the staff photographer to make this picture of the charming estate where they spent last summer. It is not far from Penrith, the center for walking excursions in the vicinity of Ullswater (see text, page 586).

of 20 years—a place where tea will not be drinkable and the bread will not be tasty." But that place is a bugaboo yet to materialize. Even in this humblest of humble places, a cheery fire blazed and in a few moments the pinched and faded hostess brought in a steaming pot of fragrant tea flanked by a heaping dish of delectable raspberry jam and a pyramid of thinly cut, smoothly sweet-buttered bread.

After we had toasted our feet, steamed out our coats, and eaten the last vestige of that generous mound of bread and drunk our third cup of tea each, we paid our 36 cents (for two) and stepped out into the now brilliant sunshine to pursue our way.

What mattered it if within another half hour we were again sloshing through the shallow mud of the firm dirt road? We knew that at the end of the walk, wherever it might lead and whenever it might be reached, there would be available another warming cup and another cheerful fire!

At Newby Bridge we entered the lounge of the Swan Inn, which has as much "atmosphere" as a Nantucket antique shop. We asked for two glasses of sherry to warm us after the rain. But it was only a quarter past five; regulations forbid the serving of sherry here until 5:30. So we went outside to make the acquaintance of the crossroads policeman, clad in yellow oilskin trousers, coat and hat. The coat and hat he frequently removes between showers, but the trousers are more or less of a fixture.

Then a long ride home in the twilight, by way of Cartmel.

ONLY HUSBANDS WERE RECORDED IN CARTMEL'S ANCIENT REGISTER

Cartmel, an easy hour's walk from Grange, possesses one of the most interesting and picturesque edifices in this part of England—a priory church almost 800 years old, founded by that Earl of Pembroke and Baron of Cartmel who was protector for the boy king, Henry III.

The low, square tower, which is without a counterpart in the entire Kingdom, was erected some 200 years after the main body of the church. It sits diagonally atop the transepts, nave, and choir, presenting a truly unique appearance (see Color Plate XIV).

Inside, the lovely 15th-century east window, with only one, or perhaps two, rivals in all England, shares interest with the parish register, which an obliging verger shows with great pride. Here one reads that such and such a country gentleman was married on such and such a day, but the bride was not of enough importance in those early times for her name to appear in the church records. How different from our own place and time, when one of the leading newspapers of Washington, D. C., in a recent two-column account of a fashionable society wedding, failed to mention the name of the bridegroom!

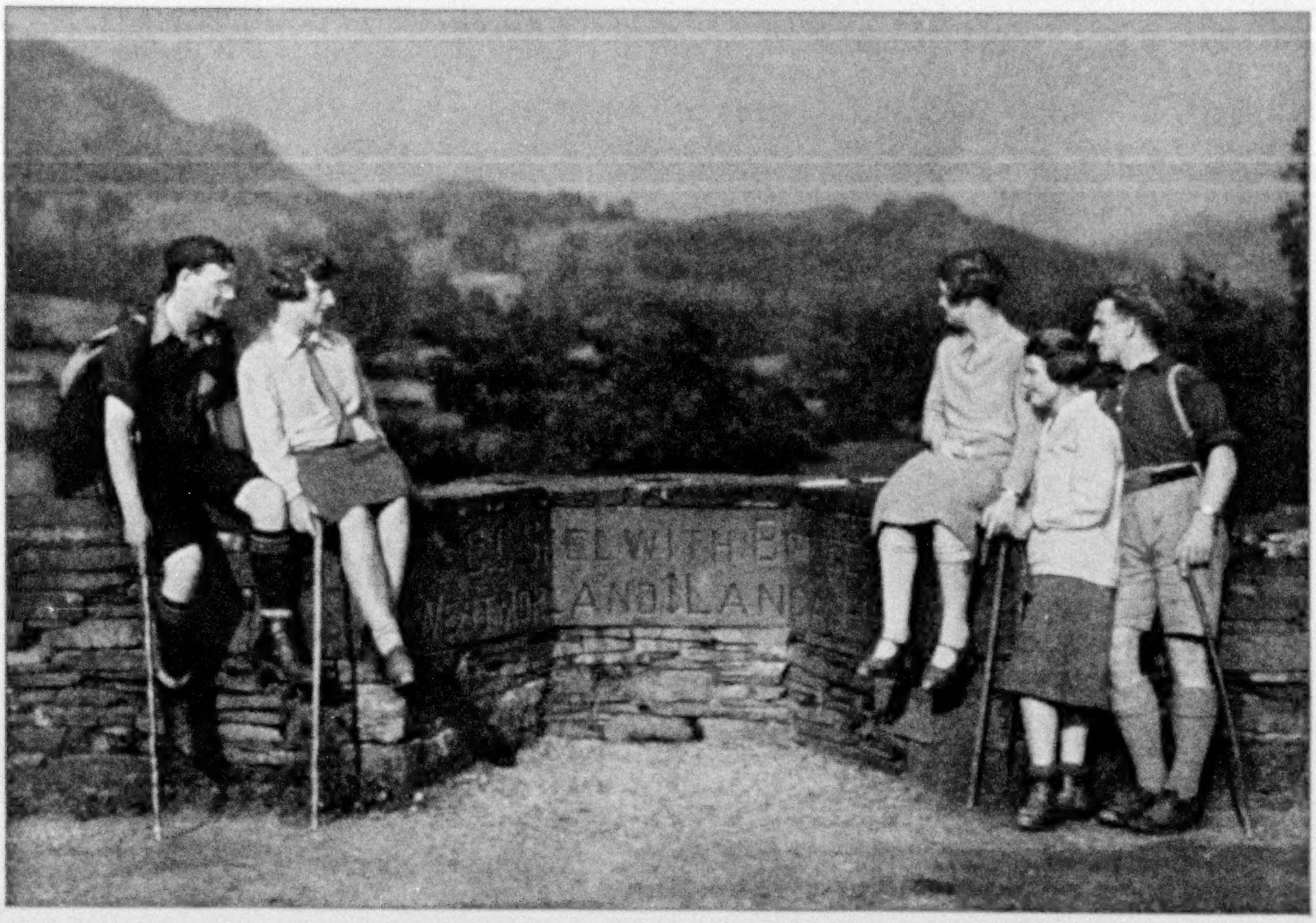
FURNESS ABBEY IS ONE OF ENGLAND'S LOVELIEST RUINS

Only fifteen miles by rail southwest of Grange is an even finer ecclesiastical treasure than Cartmel—the rose-red ruins of Furness Abbey (see Color Plate XI).

For 410 years Benedictine and Cistercian monks successively had kept a light burning on the high altar at Furness; then Henry VIII ordered the abbey suppressed in 1537! The great lead roof was torn off and melted into sows with Henry's mark upon them. To-day the tattered walls and vast arches are majestic in their desolation. The abbey grounds, surrounded by a wall, occupied 70 acres, and at one time there were 200 lay and choir monks in attendance. The building was constructed of red sandstone, quarried only a few hundred feet away. At the height of their power the abbots of Furness held feudal sway over a princely domain.

Among the relics found in the infirmary chapel is the only effigy of a Cistercian deacon that has been unearthed in Great Britain, and among its companion figures of special interest to antiquarians are two ancient military effigies lying on their sides and capped with flat-topped helmets.

At the time of our visit the abbey had as its caretaker one of the most engaging characters in the whole profession of ecclesiastical guides. His pride in his ruins has become a passion, and the suggestion that some other abbey — Tintern, Melrose, Fountains, or what not—might have some points of superior excellence is construed as a personal affront. Nor is his pride based upon ignorance, for he confesses that during those rare holidays when he has an opportunity to leave the grounds



HIKERS PAUSE TO REST ON SKELWITH BRIDGE

The boundary between Westmorland and Lancashire is indicated by the arrow on the bridge, which spans the lovely Brathay River. Close at hand is Skelwith Force, a waterfall with considerable volume after a heavy rain.

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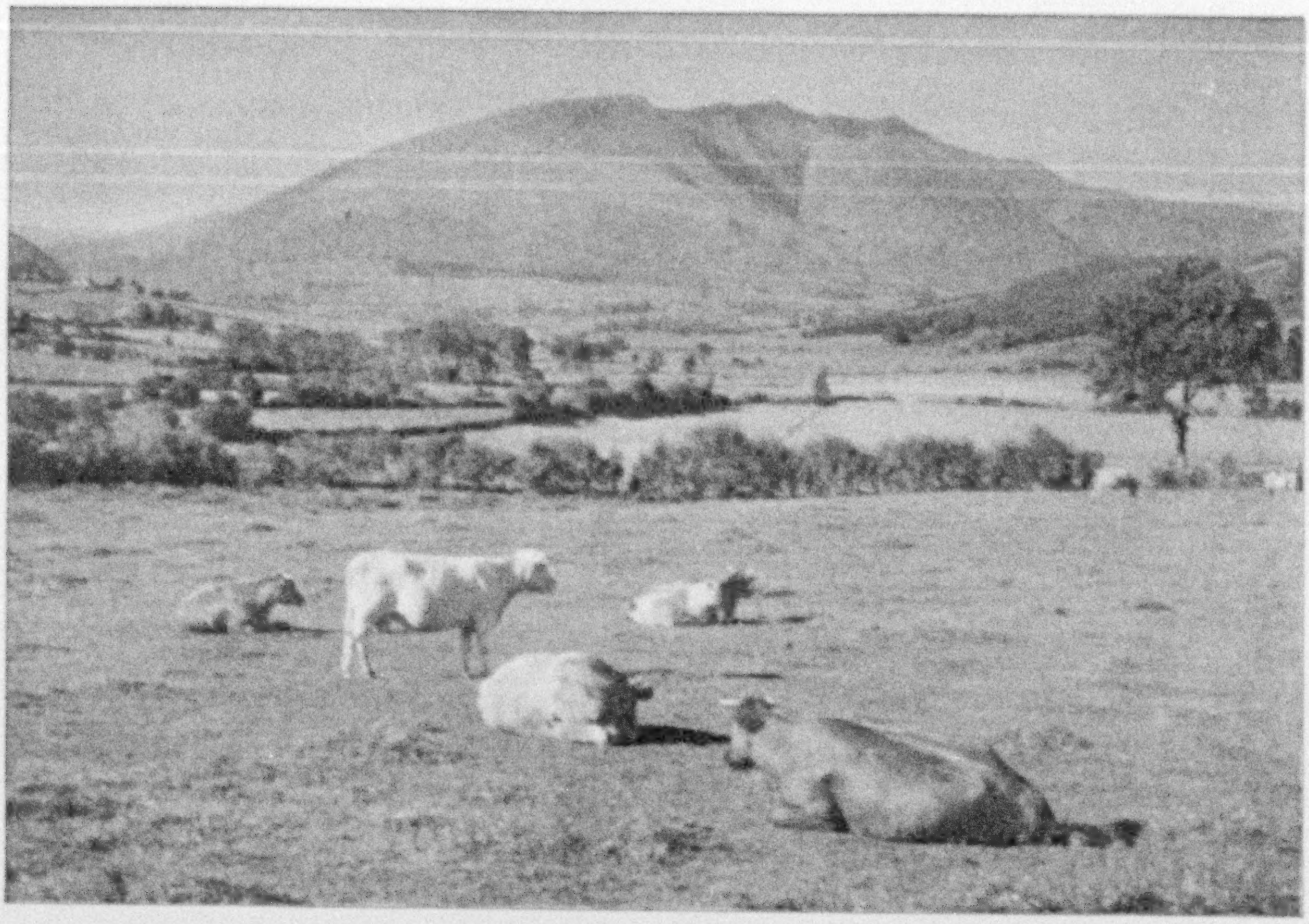
THEY HARK TO THE CALL OF THE OPEN ROAD

The Boy Scout movement had its genesis in Great Britain. These English scouts, on a hike through the Lake country, have stopped for a rest near Ambleside.



THE ENGLISH COUNTRYSIDE IS A LIVING PASTORAL POEM

The region about Keswick is devoted to hay raising and sheep and dairy farming. The 2,800-foot mountain, Saddleback, provides a favorite holiday climb in summer and is the scene of various winter sports.

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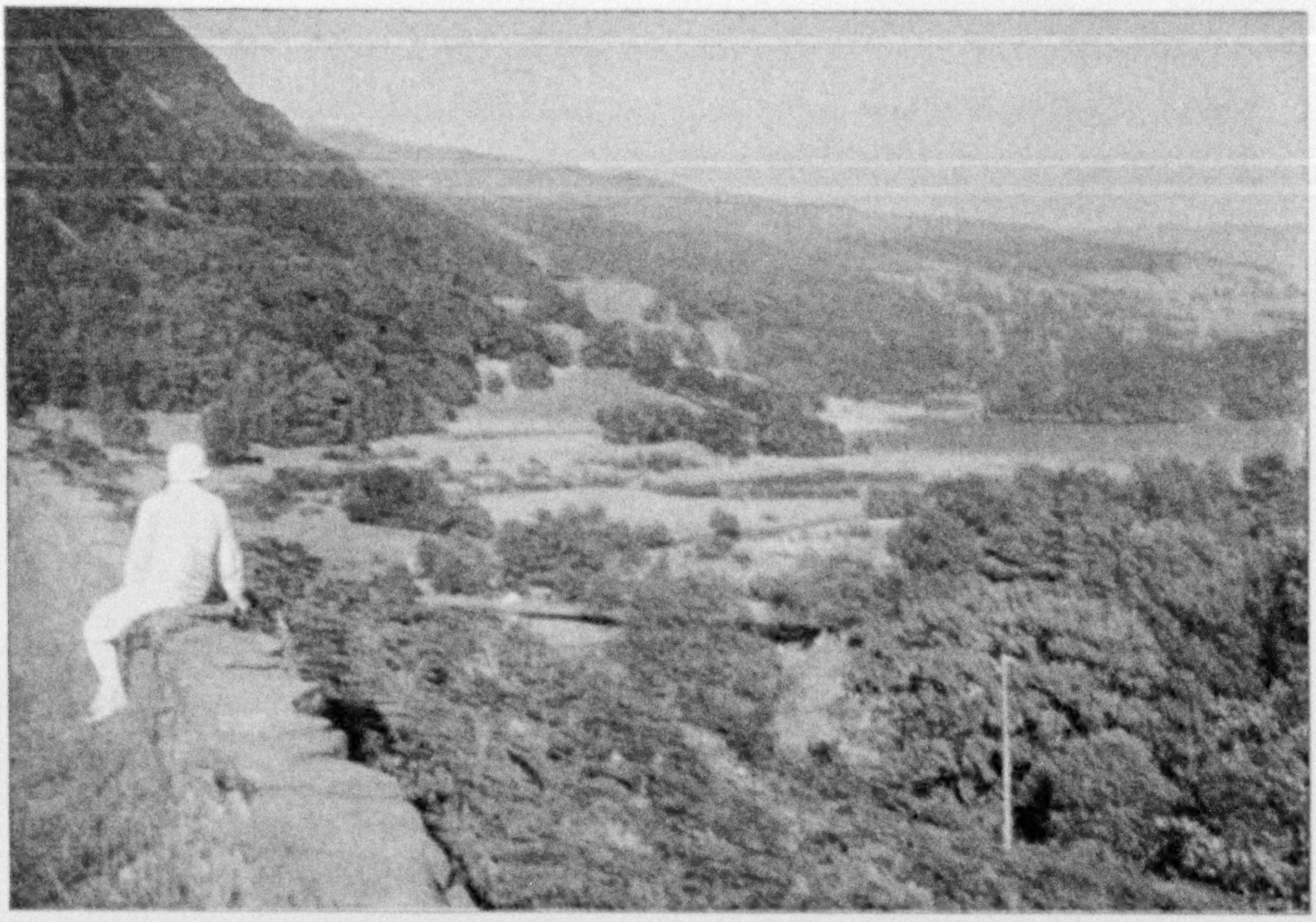
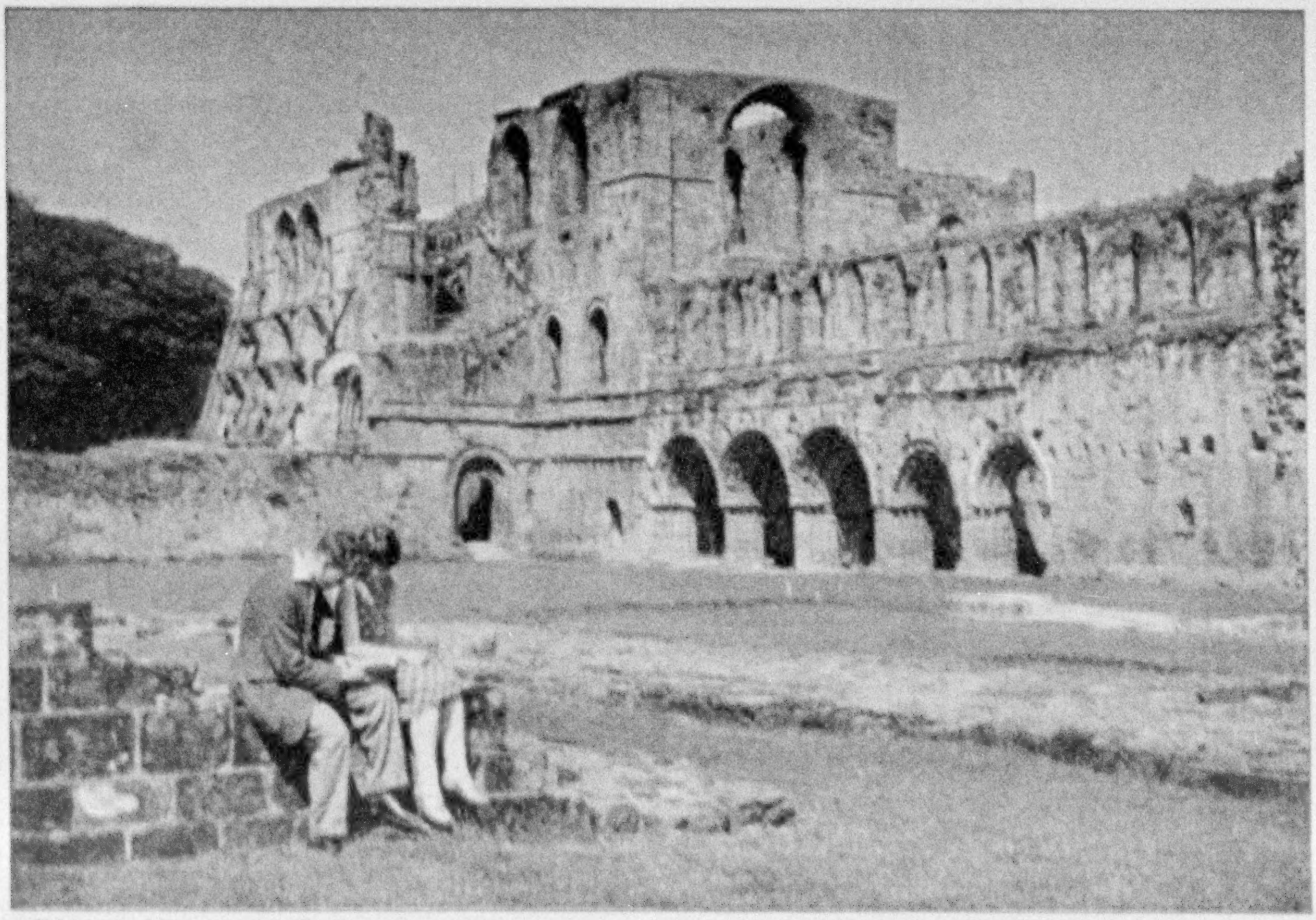
LUNCHING IN A LANCASHIRE HAYFIELD

In the Lake District of England there is so much rain that one has literally to "make hay while the sun shines," and womenfolk on the farms frequently help to harvest a crop between showers. This field is near Hawkshead, a quaint old town where Wordsworth attended school.



EVERY EMINENCE UNFOLDS A VIEW OF NEW ENCHANTMENT

Rydal Water, less than a mile in length, is one of the smallest of the lakes and is bordered with marshy bays and inlets where water lilies thrive. Wordsworth lived for years at Rydal Mount, near here.



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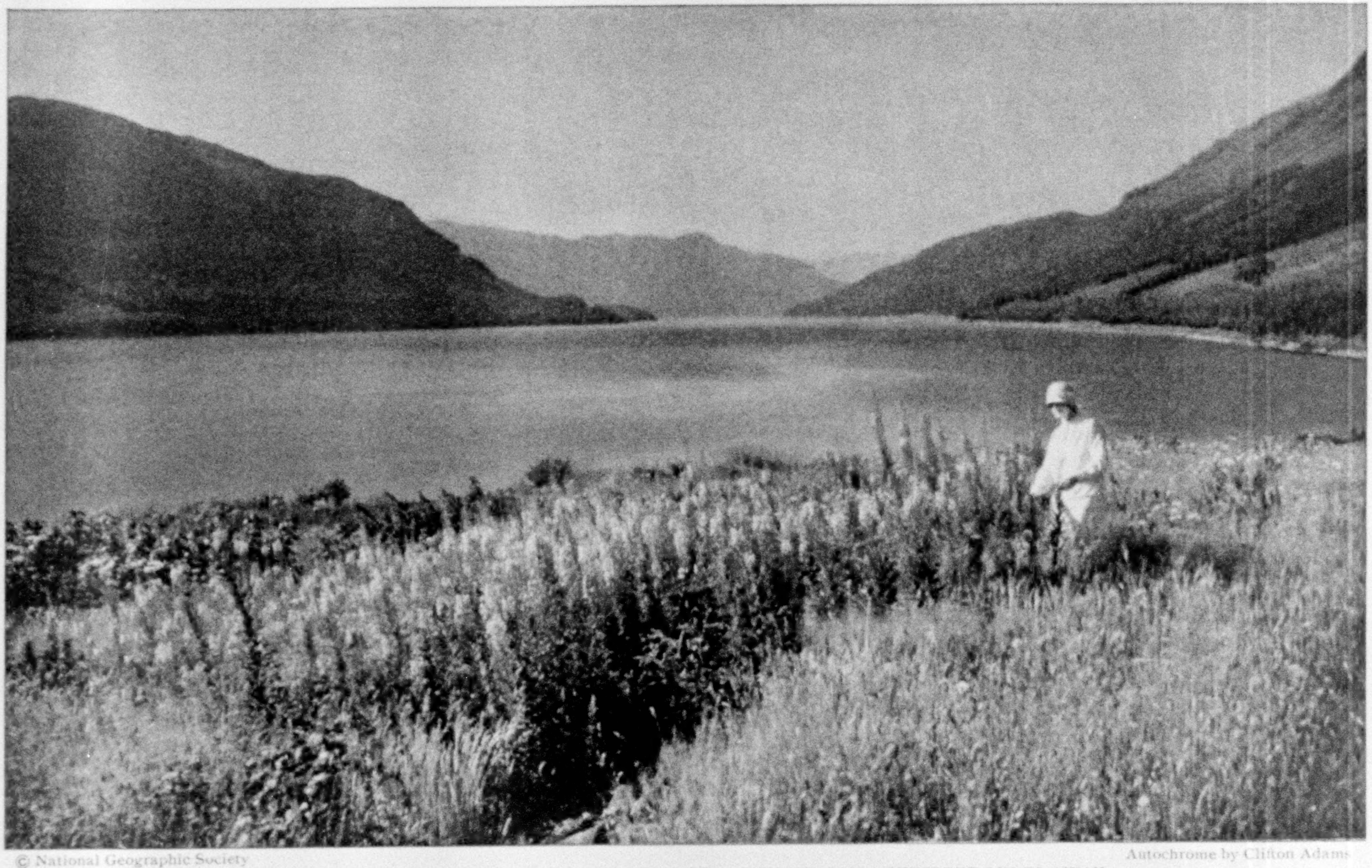
FURNESS ABBEY IS MAJESTIC IN ITS DESOLATION

Eight hundred years ago King Stephen endowed this institution, and for centuries its abbots possessed immense revenues and princely powers. Inside the Abbey walls were mills, kilns, ovens and fish ponds. In 1537 it was suppressed by order of Henry VIII.



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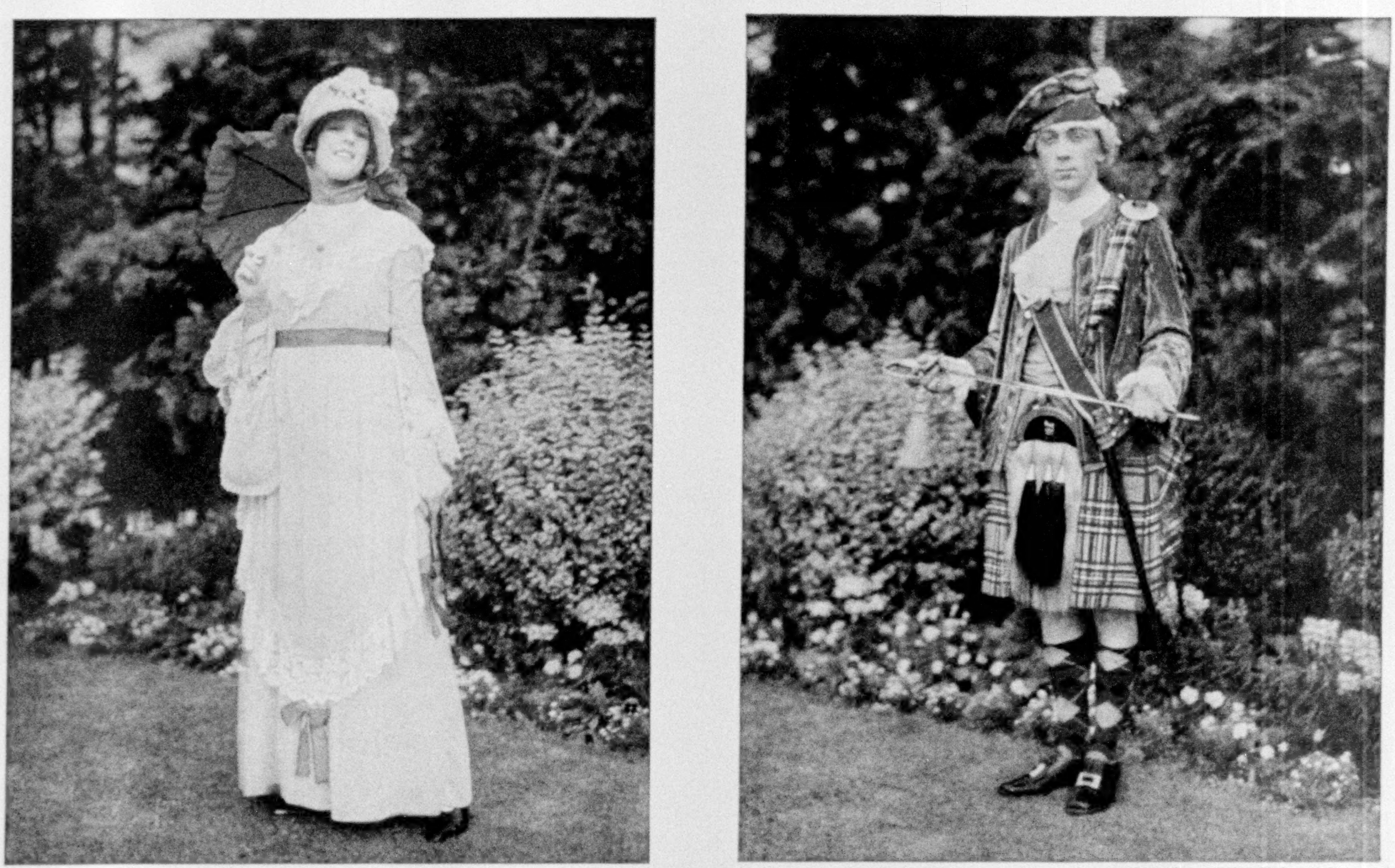
THIRLMERE'S WATERS QUENCH THE THIRST OF A CITY NEARLY A HUNDRED MILES AWAY

This lake is the property of the Corporation of Manchester and its waters are conveyed to that city by means of an aqueduct nearly twice the length of the longest one of ancient Rome. Damming operations have raised the water level 20 feet. The surrounding slopes are being planted with millions of conifers and in years to come will wear an ever-present mantle of green.



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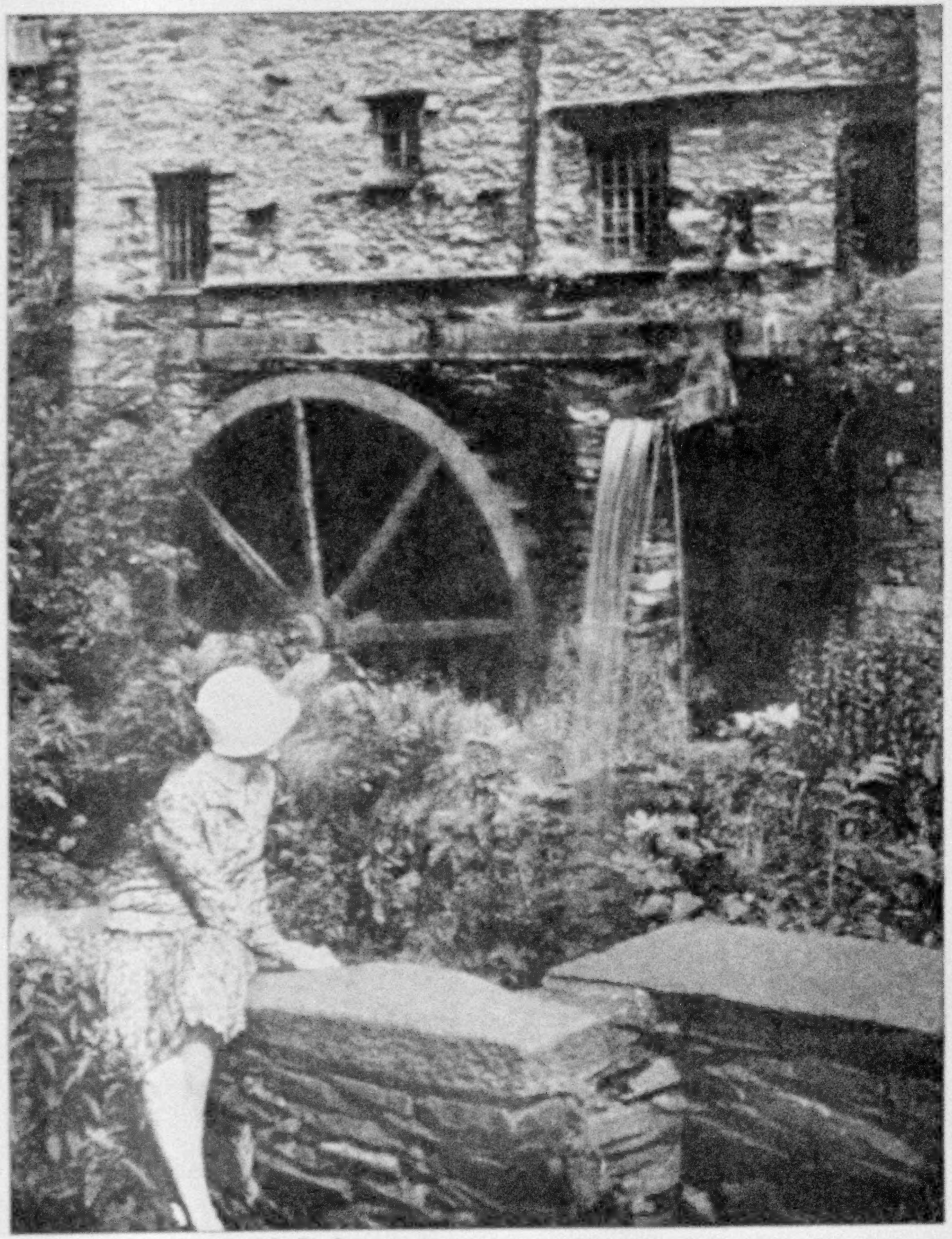
CITIZENS OF CARLISLE REËNACT SCENES FROM THE CITY'S EVENTFUL PAST

Here the highlights of local history feature Romans, Britons, Danes, Normans, and Scots and many of the important events of the past were portrayed in the city pageant of 1928. The young lady represents "Lady Aglionby" about to elope to the famous marriage mart at Gretna Green, while the gentleman impersonates Bonnie Prince Charlie who in 1745, at the head of a small Scottish army, besieged and captured Carlisle.



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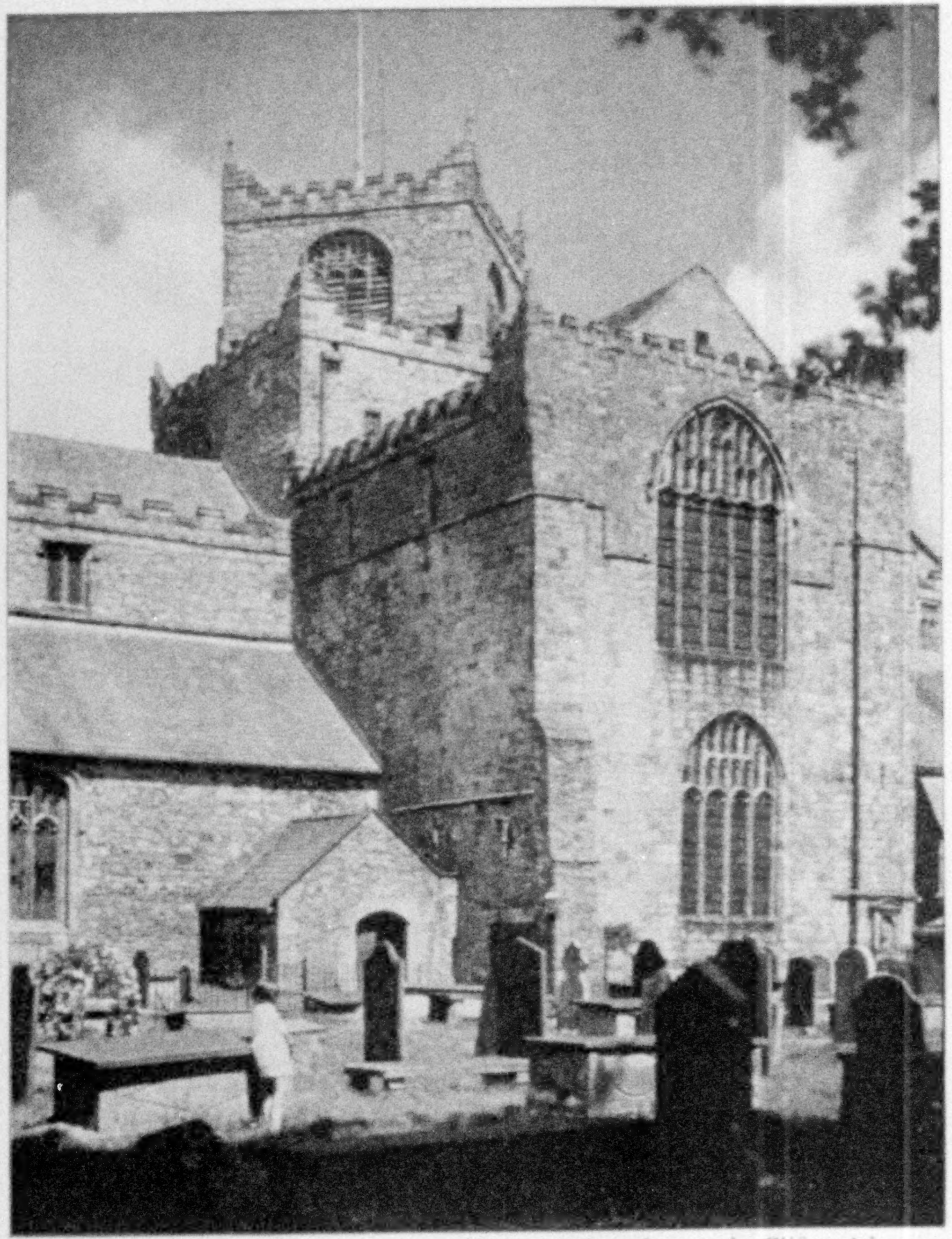
AN ARTIST'S DELIGHT IN AMBLESIDE

No longer in use as a mill, this venerable structure serves as model for many a disciple of palette and brush.



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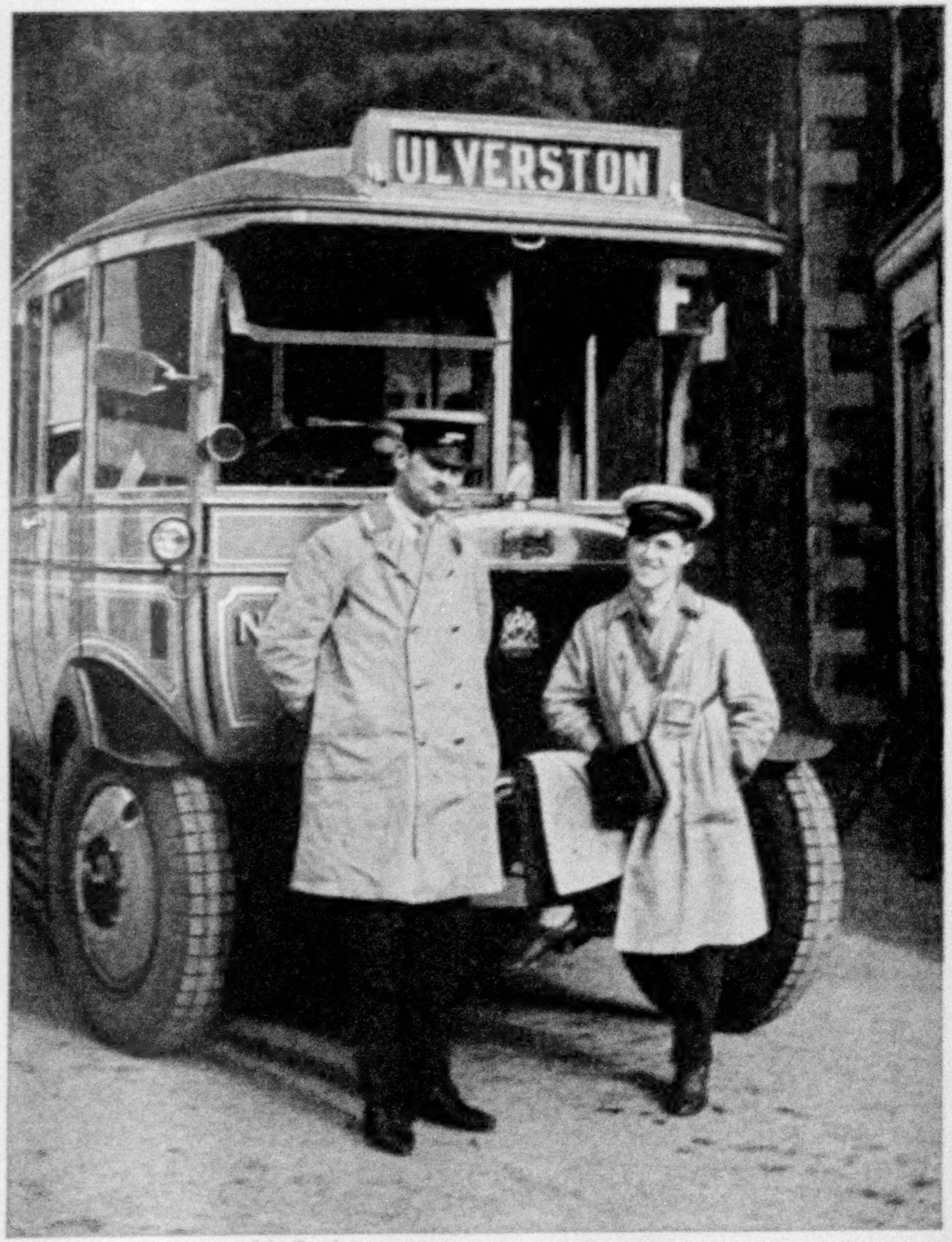
ST. MARY'S CHURCH IS THE PRIDE OF CARTMEL

Founded nearly 750 years ago by the Earl of Pembroke, this church is an outstanding example of early English architecture.



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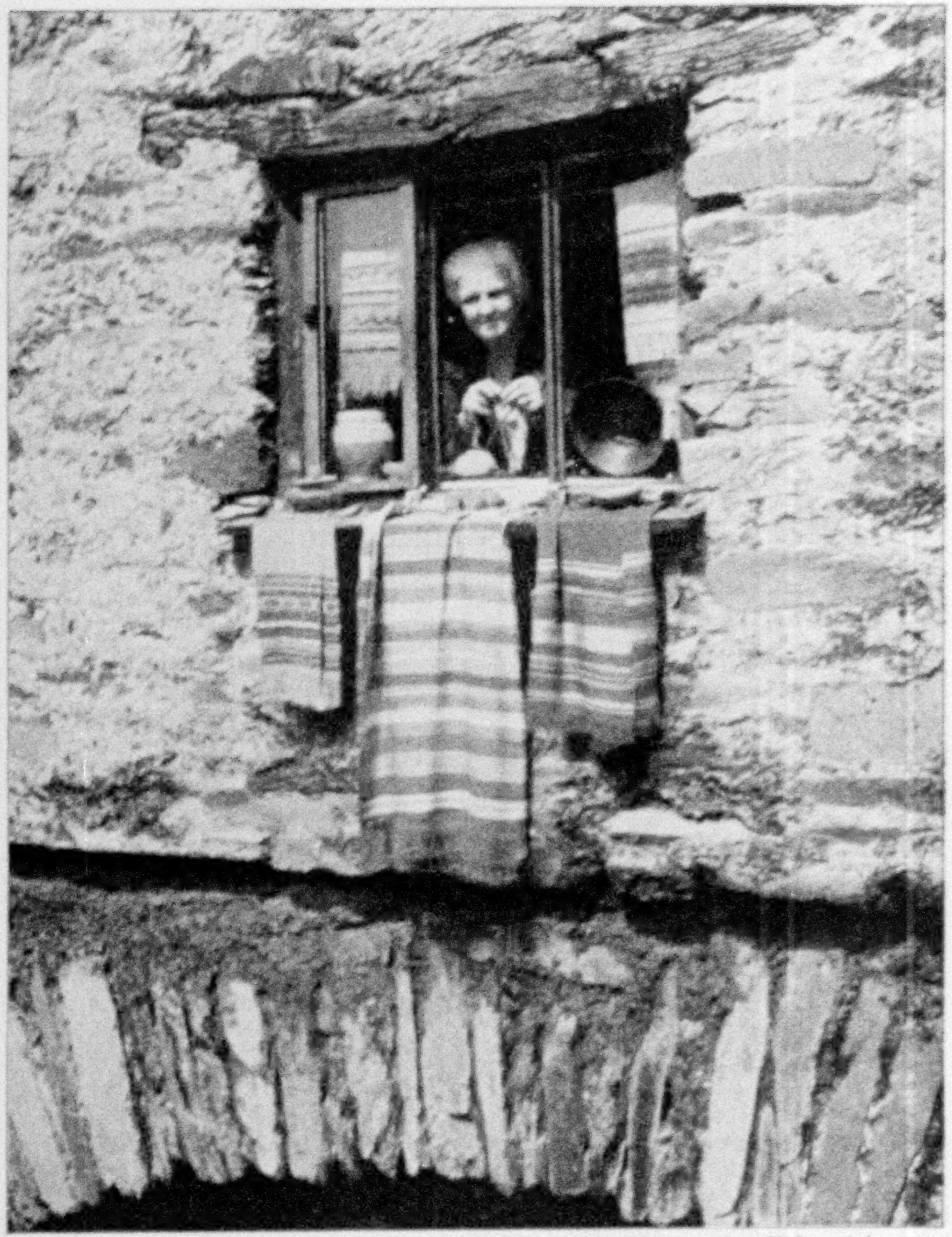
BUS LINES REACH ALL ENGLAND

Ulverston, to which populous manufacturing city this bus is bound, is an excellent center from which to tour the Lake District.



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THE BRIDGE HOUSE STRADDLES STOCK GILL

Its peculiar situation lends this structure distinction. Having been built only a century ago, it is not yet old as time is reckoned in England.

WHERE EVERY HOUSE HAS A GARLAND OF BLOSSOMS

Stone cottages, roofed with slate, nestle among the vines and flower gardens of Ambleside.

© National Geographic Society

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CARTMEL DROWSES TO THE MUSICAL MURMUR OF THE RIVER AY

This town, distinguished by its fine old church (see Color Plate XIV, right), can trace an ancient lineage, for long before the days of the Conquest a king of Northumbria gave the land thereabout "with all the Britons on it" to St. Cuthbert.

he hurries at once to rival abbeys to hear the claims of his fellows, in order that he may more readily refute their statements when, in the course of time, the same visitors come to see out-of-the-way, but, to him, incomparable, Furness.

THE HOME OF PETER RABBIT

The Lake District of England enjoys a unique distinction in the realm of letters, in that it has given its name to an entire school of English poetry; and yet, after more than one hundred years, it is much to be doubted whether all the writings of the Lake Poets have enjoyed as extensive and as affectionate reading as have the nursery stories of a charming little authoress who is living to-day at Sawray, near the shores of Esthwaite Water. In her "Castle," as she calls it, surrounded by her chickens, cats, and guinea pigs, dwells the white-haired lady known to all childkind as Beatrix Potter, author and artist of the adventures of Peter Rabbit in Mr. McGregor's garden and elsewhere.

Visitors from the far corners of the earth come to this shrine of juvenile literature, for Peter Rabbit has been translated into many tongues.

How do the residents of the Lake District amuse themselves when they are not writing, cycling, or catering to the needs of tourists and vacationists? One cannot absorb scenery exclusively day in and day out, year in and year out. There is little boating in the Lake District and less bathing, a modicum of fishing, some arduous fox-hunting on foot, and only rarely those seasonal sheep-dog trials and "hound trails" at which such astounding evidences of canine intelligence are to be observed (see illustration, page 588).

BOWLING ON THE GREEN

The diversion which everywhere arrests the attention of American visitors is the twilight pastime of bowling on the green. Each village has its carefully drained greensward, as level and as smooth as a billiard table, and here each evening young men and old gather to send their black balls curving with uncanny precision toward their targets.

Both before and after dinner, in whatever town we happened to be spending the night, we would walk down to the green and watch the contests. The bowlers are at pains to avoid any one "alley," but send their missiles crisscross and in every direction, lest they wear grooves in the grass.

To those who have seen the pleasure to be derived from this temperate outdoor exercise, it is a source of surprise that the bowling green has not been adopted more generally by country clubs in America.

A CHANCE ENCOUNTER WITH A COMPATRIOT

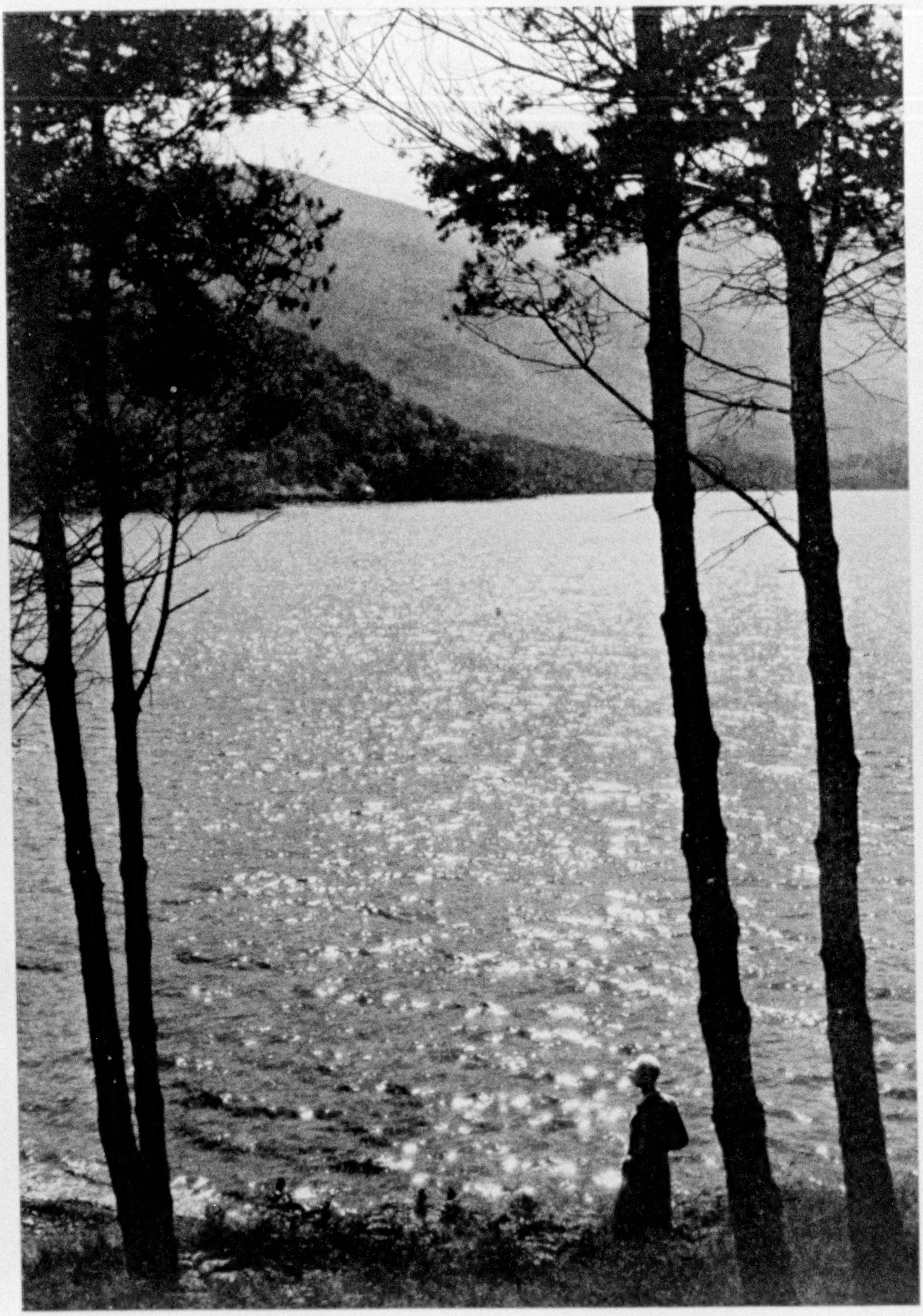
We were spending a few days at a comfortable hotel in Grasmere. One morning, at breakfast, the head waiter seated a young stranger at our table. The meal passed without conversation, but that evening, at dinner, the inattention of our servitor resulted in the collapse of the trio's reserve. In the amenities which followed the exchange of salt shakers, necessitated by those never-seasoned, ever-present boiled potatoes of the English menu, we discovered that the stranger was also from the States.

He had been graduated at Christ Church, Oxford, a few days previously and he was now on a cycling trip through the Lake District. He confided that he had been inspired to take the leisurely outing through having read R. J. Evans's "Through the Heart of England in a Canadian Canoe" and Melville Chater's "Through the Back Doors of France," published several years ago in the NATIONAL GEOGRAPHIC MAGAZINE.

Our Oxonian, a native of Charles Town, West Virginia, had been graduated from Yale, had come overseas at the outbreak of the World War, and had been wounded during his solitary tour of duty of 24 hours at the front. He had returned to America to take special courses at the Massachusetts Institute of Technology and at Harvard, and finally had entered Oxford.

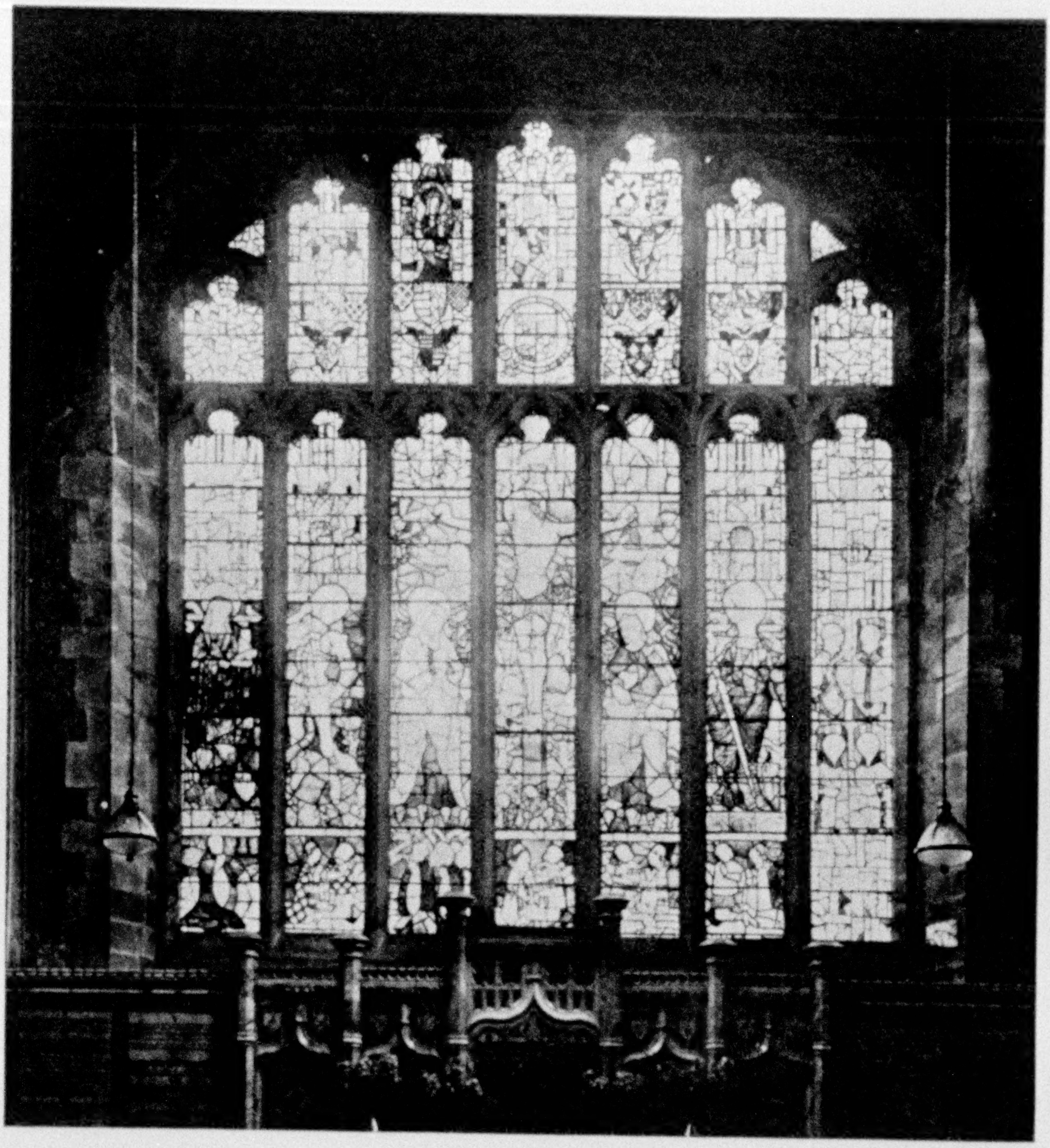
"I am afraid that I have acquired the fixed habits of an undergraduate," he replied, when asked to what all this college training was leading.

The next morning we stood at the crossroads and waved good-bye to our habitual student as he mounted his English bicycle, equipped with those odd rim brakes attached to both wheels, which we had so



"WHEN THE SUN SHINES FORTH LIKE A GAY YOUNG LOVER" ON THIRLMERE

This is a much larger Thirlmere than that whose praises the Lake poets sang (see Color Plate XII). While there is a diversity of opinion as to whether the engineers in charge of the Manchester waterworks have marred the surrounding scenery, to those who did not know it "in the old days" it is a lake of exceptional beauty.

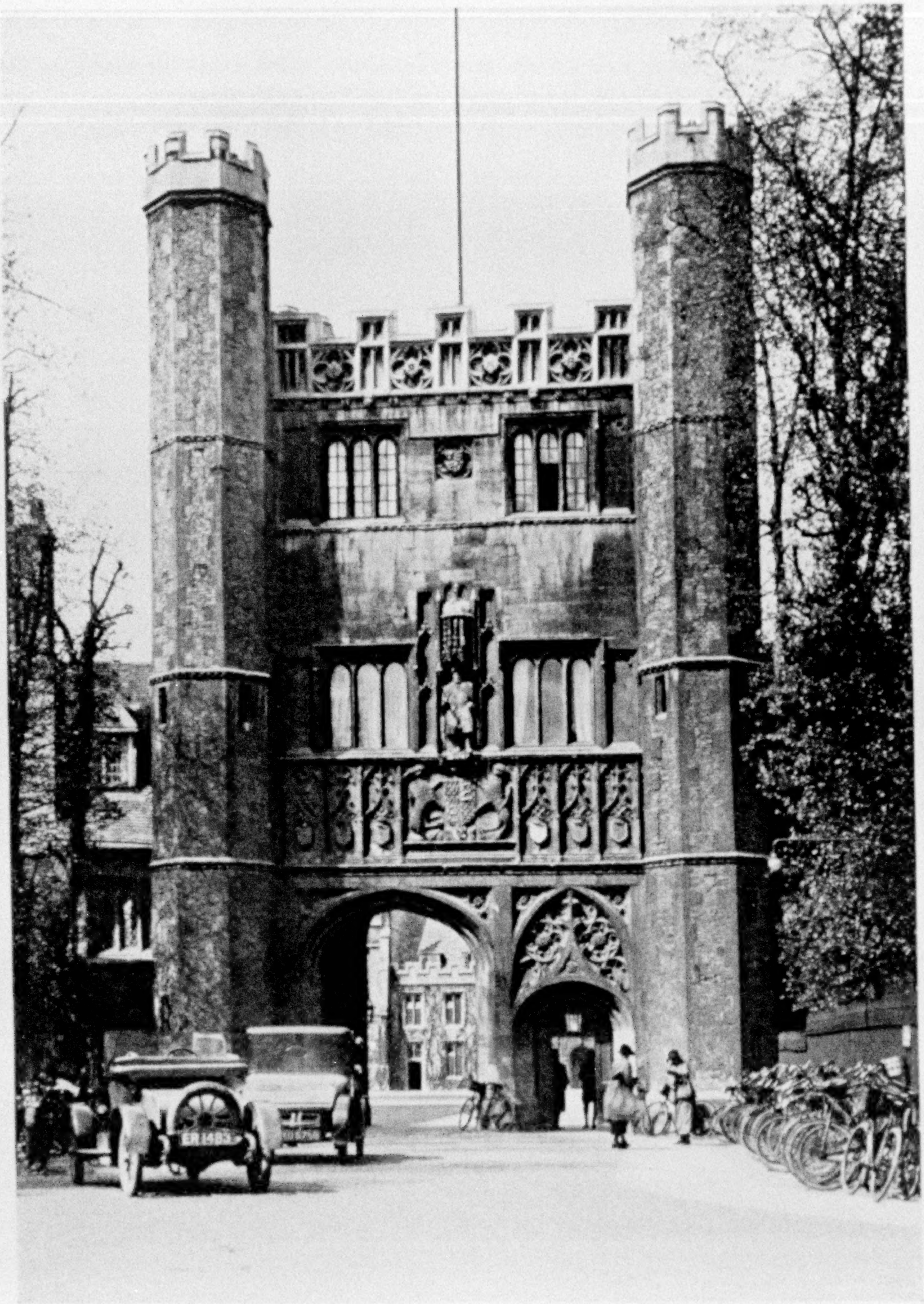


THE FINE STAINED-GLASS WINDOW IN THE PARISH CHURCH OF BOWNESS

Portions of several windows of different dates and styles, some as early as the 13th century, make up this lovely specimen. Most of the glass came from Cartmel Priory (see Color Plate XIV). American visitors are interested in the red-white-red striped coat of arms of John Washington, in the upper right corner of the third light, numbering from the right. The Washington family resided in Lancashire before moving to Northamptonshire, at Sulgrave Manor.

frequently puzzled over and which he explained afforded special control when slithering down steep, rain-soaked hills.

I wonder, Mr. Charles Town, West Virginia, what you saw and learned of the Lake District during your two months of meandering, that we missed in our more circumscribed wanderings afoot and by motor coach? Some day we expect to return and find out, not, perhaps, "on a bicycle built for two," but in one of those intimate little motor cars which Mr. and Mrs. Corey have used in Devonshire to such advantage both to themselves and to the readers of the NATIONAL GEOGRAPHIC MAGAZINE (see text, pages 529 to 568).



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STATELY KING'S GATEWAY GIVES ENTRANCE TO TRINITY COLLEGE

The lower half of the portal dates from the time of Edward IV, the upper from that of Henry VIII, whose stone image stands guard on its outer side. Trinity, the largest college in England, was founded by Bluff King Hal in 1546 by the amalgamation of several earlier units. Like King's College (see illustration, page 607), it is a part of Cambridge University. Note the large number of bicycles parked at the right.

A TOUR IN THE ENGLISH FENLAND

By Christopher Marlowe

TO THE seasoned traveler a large part of England is as an open door. Agencies and steamship companies have so familiarized him with the places of interest in the north and west that it seems somewhat of an anomaly to discover a region which has been almost entirely neglected; yet the country of East Anglia is by no means devoid of importance and contains many features which will appeal particularly to students of history.

THE CRADLE OF THE ENGLISH RACE

Indeed, the fen country has been described as the cradle of the English race.

Hither marched Roman legions to the conquest of British tribes; hither retreated Boadicea before the advance of Suetonius; hither came the Danes to plunder and destroy. At the summit of the hill leading out of Cambridge arose the Norman castle which was seized later by rebellious barons. Along the still-existing Roman highway marched in 1381 the mob of peasants under Wat Tyler, and in 1643 the disciplined troops of Cromwell—a truly memorable pageant of events.

Originally the whole land was a forest of oak, ash, fir, and nut trees. Then, in the second century, there was an earthquake, and the sea submerged this forest.

When the Romans discovered how fertile the land was, they started to reclaim the districts drowned by river floods. They built dikes and embankments and even checked the inroads of the sea.

After the disastrous Saxon, Danish, and Norman raids, much of the reclamation work perished, until the monks took up the task. Then, wherever a monastery rose, the slow, steady labor proceeded. As their outfalls became choked up, however, the natural drains decayed, and the fenlanders did everything possible to prevent their repair; for they believed that drainage would seriously interfere with their fishing and fowling.

So, when a bank was repaired, the cottagers pulled it down again; when a new drain was dug, they tried to stop water from flowing into it. Finally Cromwell put down all opposition by force, and enlisted the services of Cornelius Vermuyden, a Dutch engineer.

Vermuyden cut a few main watercourses through the district, with Lynn as their chief outfall, and at right angles to these a number of short canals. Water from the marshes was pumped into these canals by windmills, to be carried in turn to the rivers and finally to the sea. So, wherever one goes in fenland, one will see vast acres of reclaimed marsh intersected by drains and with a windmill or steam pump every few miles.

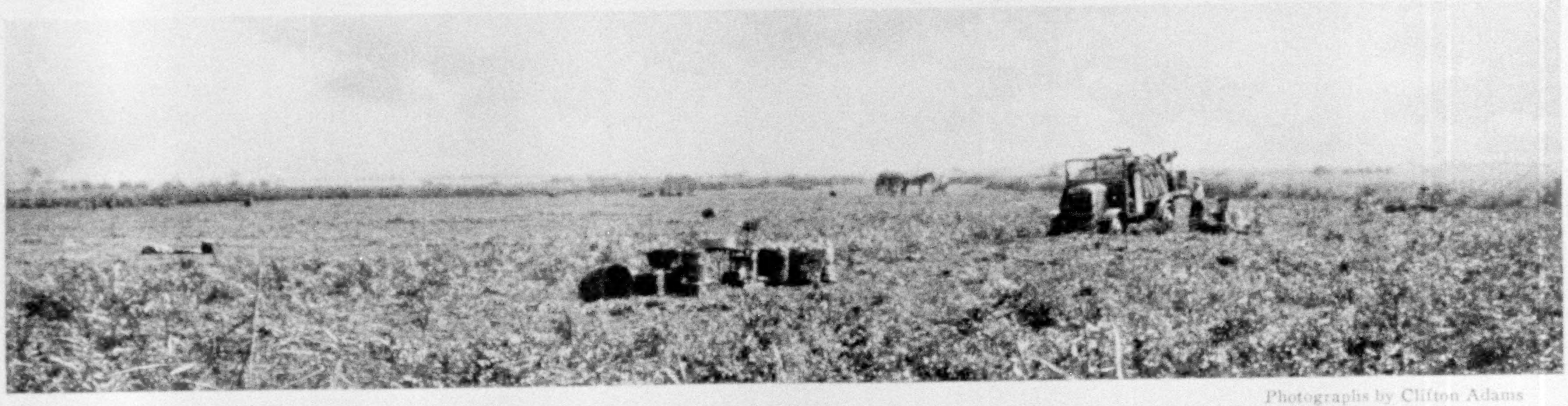
But it is not only the land drained by rivers that has been reclaimed. Ever since Roman days, attempts have been made to win back the salt marshes. At the present time there is a scheme on foot for draining the whole of The Wash and adding thereby to England thousands of acres of some of the finest agricultural soil in the world (see map, page 609).

It was with a thrill of anticipation that I set out on a glorious morning in June to visit the highways and byways of the fenland. Leaving the Via Devana, that Roman road which runs through Cambridge and on to Godmanchester, just below Huntingdon, where it connects with Ermine Street, the great Roman highway from London to the north, a narrow track led through many small villages to Earith Bridge.

Here two of Vermuyden's channels, the Old Bedford and New Bedford rivers, flow side by side for 30 miles across the plain. And the original River Ouse, from which the water for the new channels was drawn and which became in consequence so choked with weeds as to be useless for navigation, meanders round by way of Stretham, Ely, and Littleport, picking up numerous tributaries en route. Finally, at Salter's Lode, it unites with Vermuyden's streams to flow in one tidal watercourse to the sea.

A short distance beyond the bridge lay a rough-hewn cart track covered with bunches of weeds, nettles, and rank grass. High gates led to private farmyards, whence dogs sought to chase the intruder without further inquiry. At length

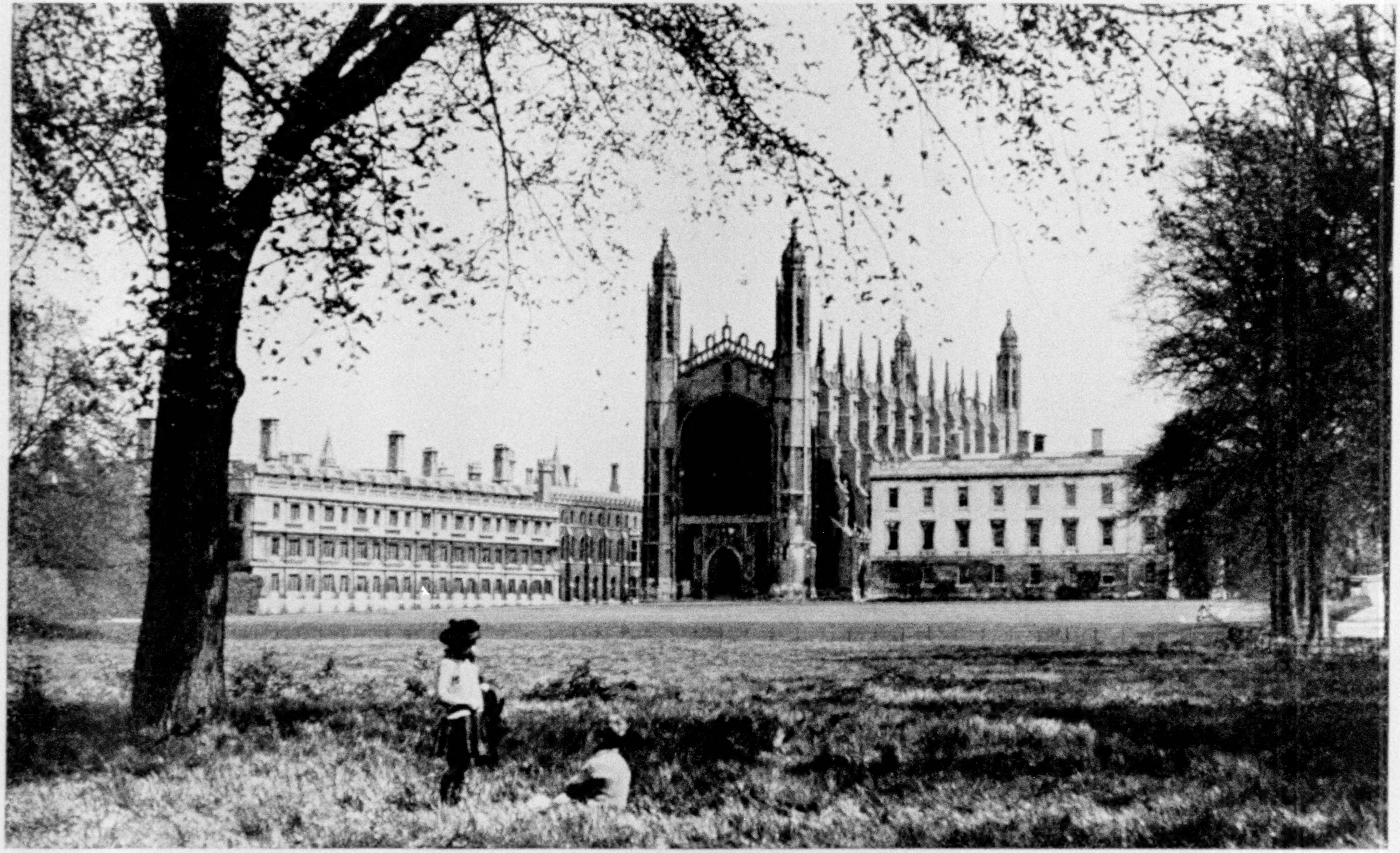
DEVOTEES OF ROD AND LINE FIND ENJOYMENT ALONG THE LARGE FENS DRAINAGE CANALS ABOUT BOSTON



Photographs by Clifton Adams

"SPUDS" TO THE FAR HORIZON

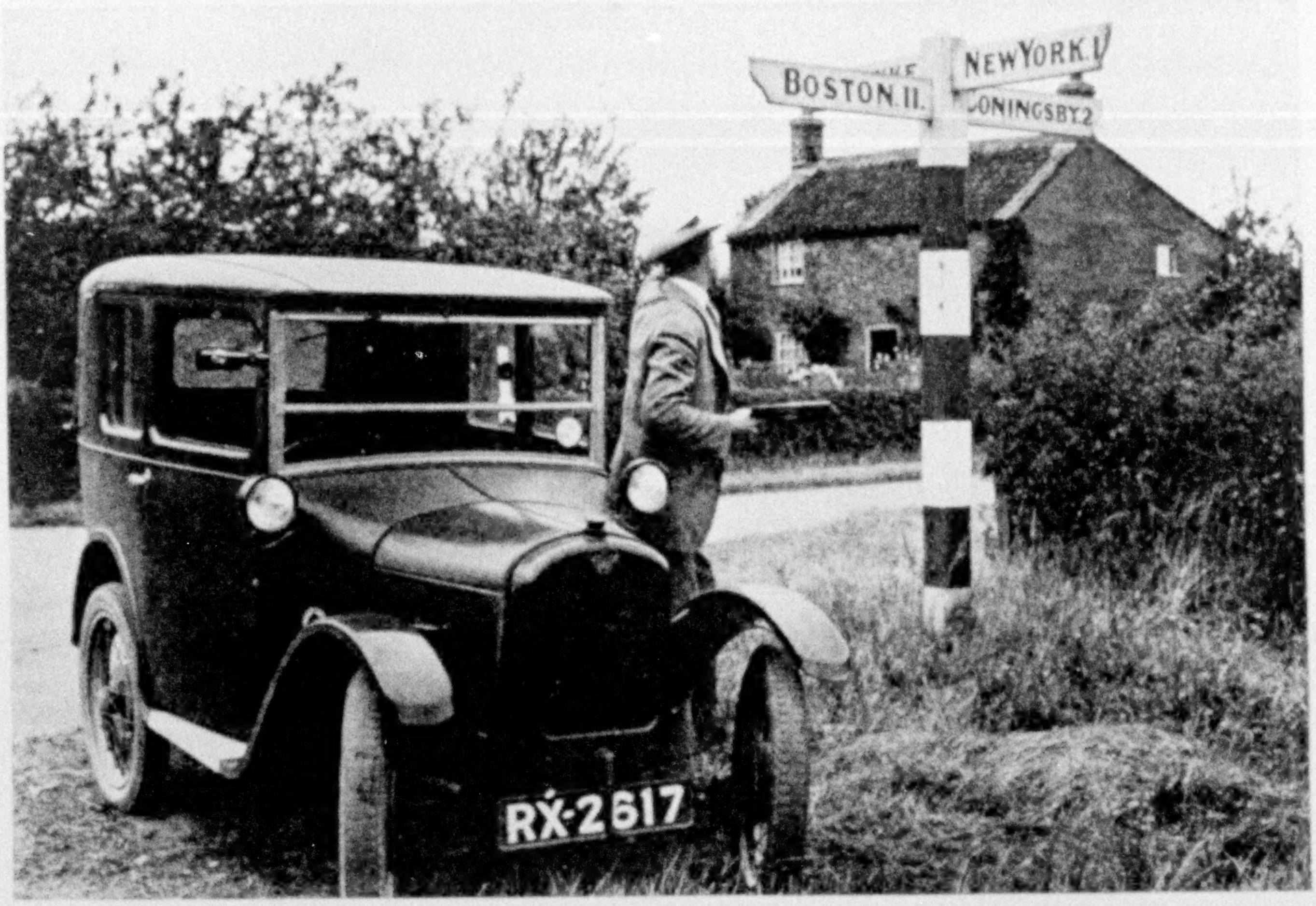
In the marshland between the Wolds and the sea, flat, fertile acres reclaimed from the ocean provide a rich agricultural region. Harvesting in a potato field near Wainfleet.



© Donald McLeish

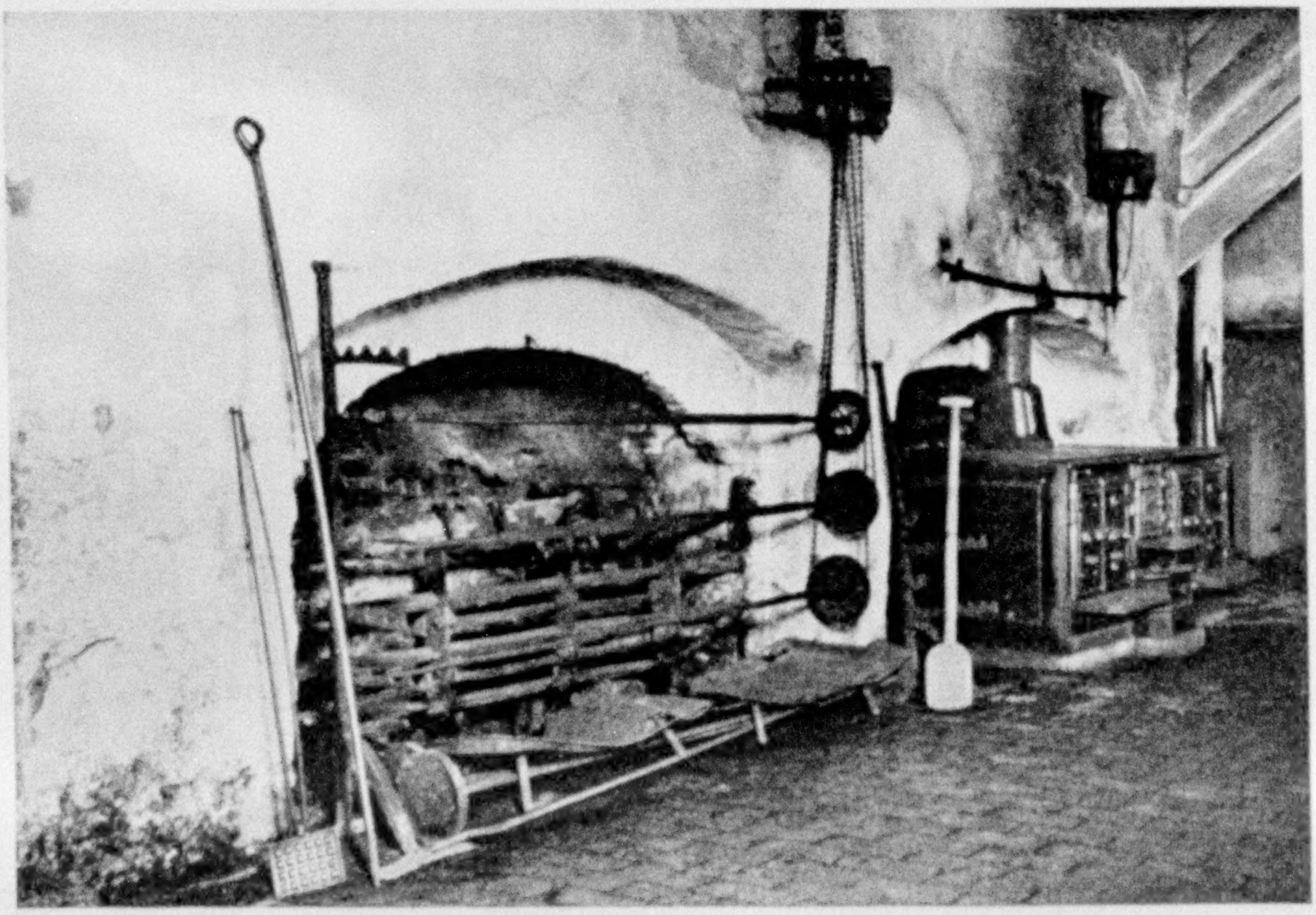
A MAGNIFICENT 16TH-CENTURY CHAPEL IS THE PRIDE OF KING'S COLLEGE, CAMBRIDGE

This building has a very fine Perpendicular style interior and some beautiful stained glass. The college, a unit of Cambridge University, was founded by Henry VI and numbers many famous names among its connections.



SOME OF LINCOLNSHIRE'S SIGNPOSTS HAVE A HOMEY LOOK TO AMERICANS

The staff photographer in his journeyings through the fenland stops to get his bearings between New York and Boston, towns which have lent their names to more populous communities in the New World (see text, page 616).



Photographs by Clifton Adams

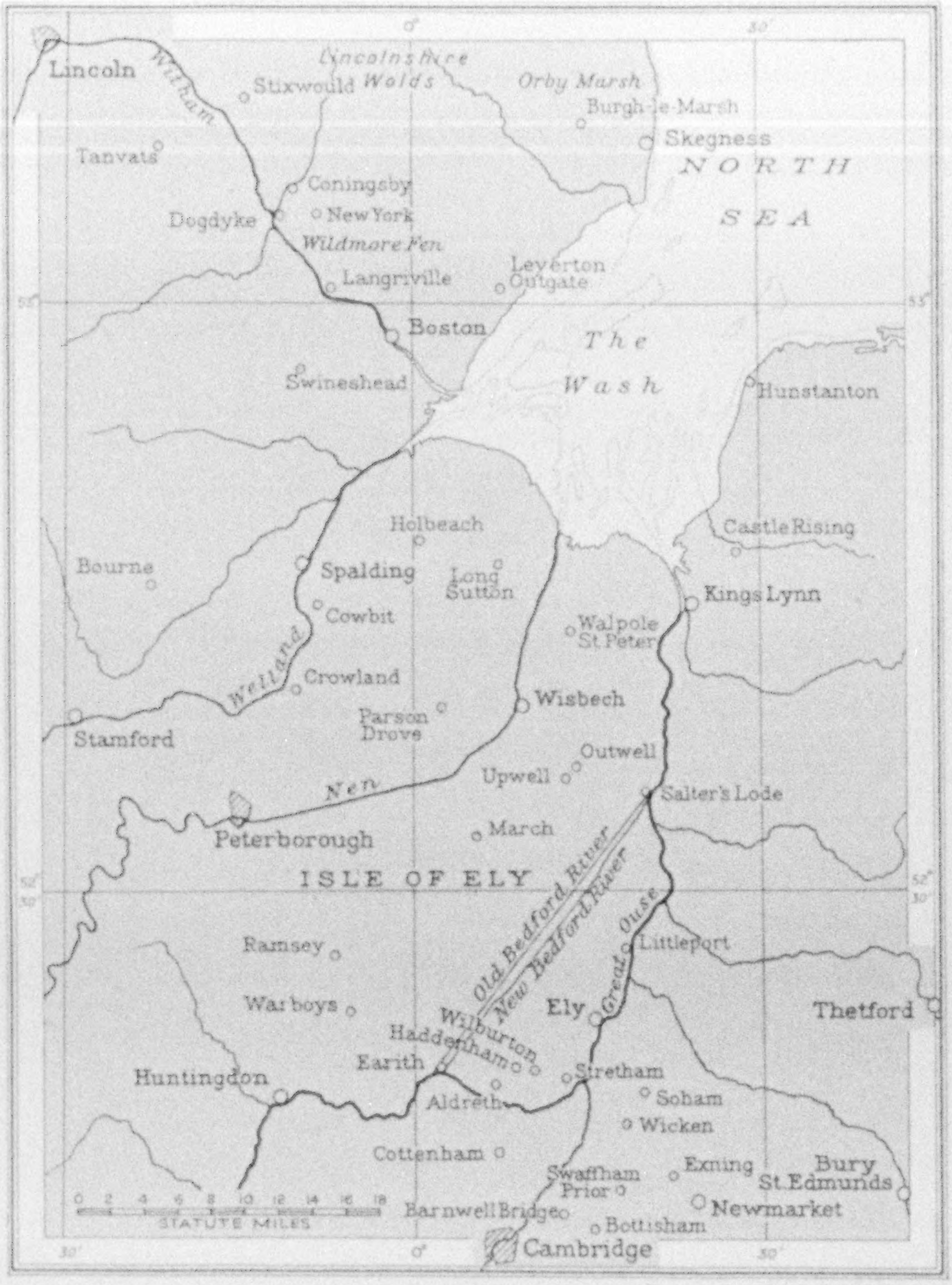
ADJUNCTS OF THE CULINARY ART IN BOSTON'S OLD TOWN HALL

Many a joint and fowl have been prepared on the apparatus of this ancient fireplace. Note the windlass at the right, used to turn the spits.

appeared a cluster of cottages, and save for these I seemed to be in a wilderness of cultivation. Far as the eye could reach stretched a multicolored panorama of wheat and barley fields interspersed with dikes, while on the horizon I could just see a silver line, betokening the Great Ouse.

FENLAND'S "CALIFORNIA"

Yet this deserted hamlet rejoices in the name of California! Standing by the post box, one can gaze over this fertile country and picture the difference which drainage has made. Formerly the whole area was a vast swamp, whose inhabitants were continually tortured by ague and rheumatoid arthritis. To alleviate the pain, they resorted to opium and other violent narcotics. Even to-day one occasionally finds an old fenlander who is addicted to the opium habit; but such cases are exceedingly rare.


Lincoln
Witham
Stixwould
Lincolnshire Wolds
Orby Marsh
Burgh-le-Marsh
Skegness
NORTH SEA
Tanvats
Coningsby
Dogdyke
New York
Wildmore Fen
Leverton Outgate
Langriville
Boston
The Wash
Swineshead
Hunstanton
Holbeach
Castle Rising
Bourne
Spalding
Long Sutton
Kings Lynn
Cowbit
Walpole St. Peter
Welland
Crowland
Wisbech
Parson Drove
Stamford
Outwell
Upwell
Nen
Salter's Lode
March
Peterborough
ISLE OF ELY
Old Bedford River
New Bedford River
Great Ouse
Littleport
Ramsey
Thetford
Ely
Warboys
Wilburton
Haddenham
Earith
Stretham
Huntingdon
Aldreth
Soham
Wicken
Cottenham
Swaffham Prior
Exning
Bury St. Edmunds
0 2 4 6 8 10 12 14 16 18
STATUTE MILES
Barnwell Bridge
Bottisham
Newmarket
Cambridge
0°
30'
53°
52° 30'

Drawn by C. E. Riddiford

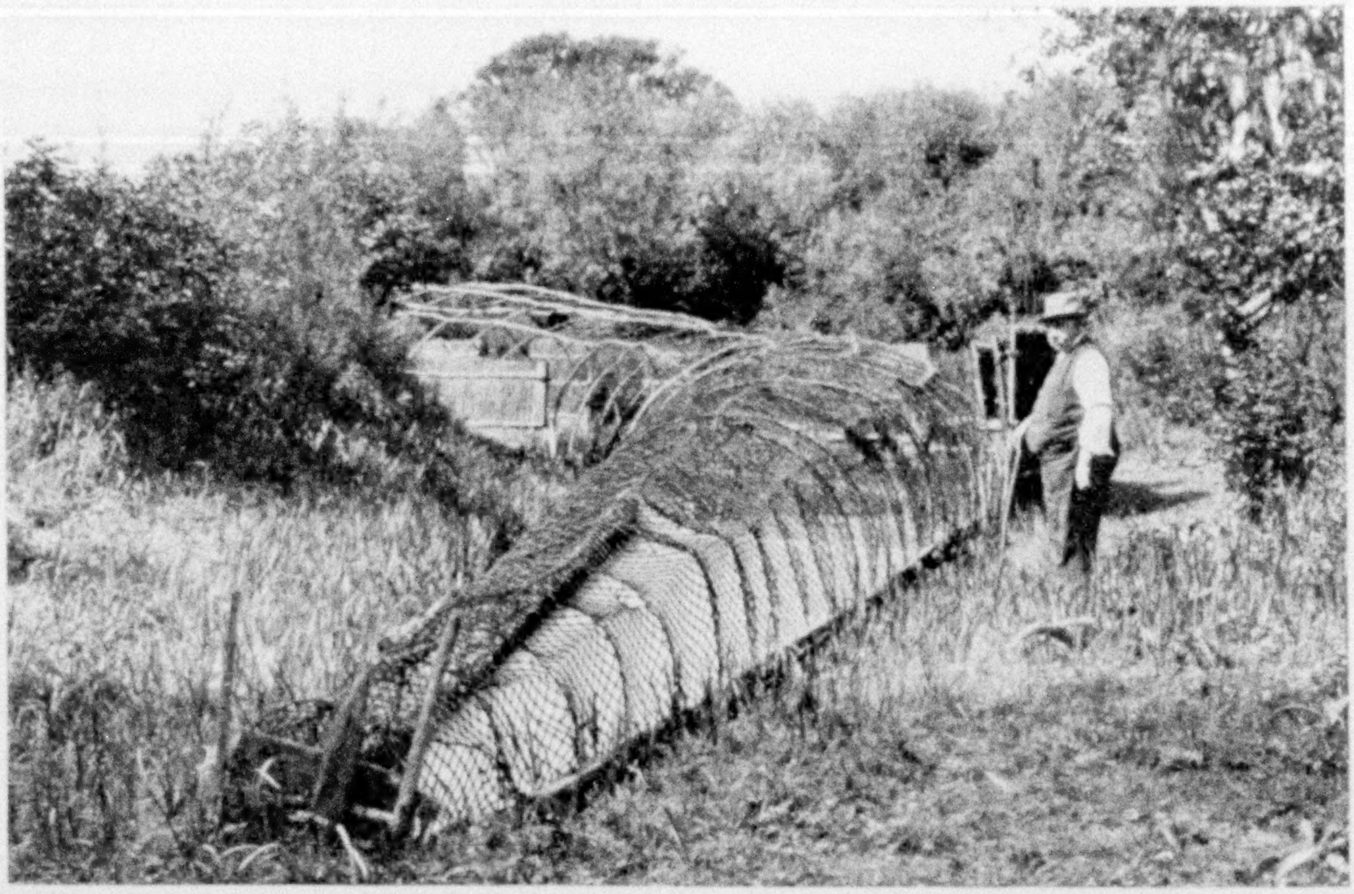
ENGLAND'S FENS HAVE BEEN RECLAIMED

Once a forest, this historic region was submerged in the second century (see, also, inset map, page 532).

From California I passed over a wide area of reclaimed marsh to Wisbech, where the annual fair was in progress. In this district every village has its feast day, which is held on the date of the dedication of the church. A procession marches around the boundaries, a religious service is held, and there is a collection for charity. Some years ago singlestick, a kind of dueling with wooden staves, was a great attraction, but nowadays the villagers are content with wrestling exhibitions and "all the fun of the fair."

Notwithstanding, one could still see such a contest as that provided by the men of Tanvats and those of Stixwould. A line of competitors stood opposite each other, with eyes fixed on their opponents' feet. At a given signal each man seized his rival near the chest with both hands, trying at the same time to kick him on the shins. The art consisted in bringing one's opponent to his knees in the shortest possible time. The prize was a copper kettle.

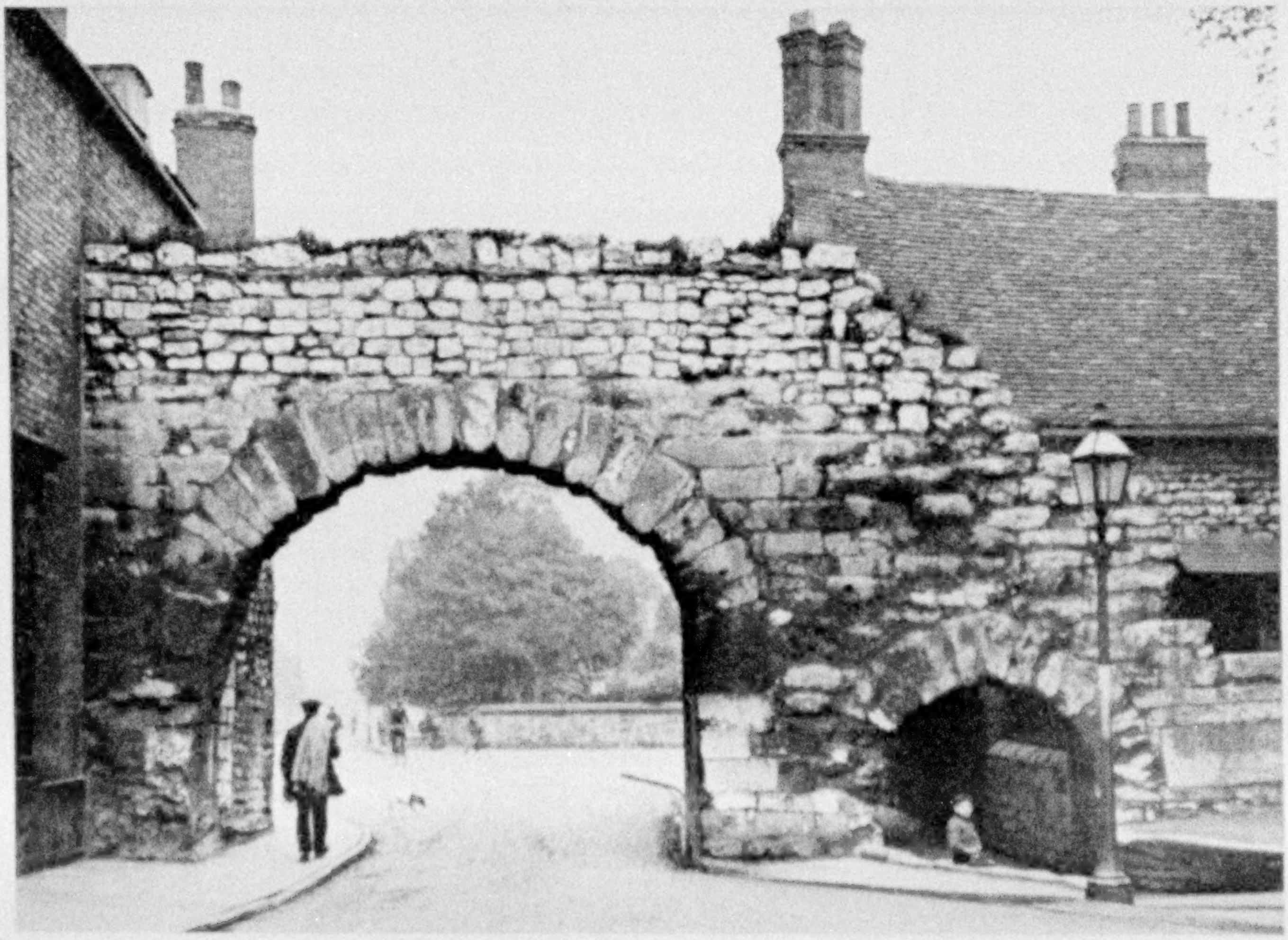
But on one feast day a man from Tanvats put glass in his boots. His prospective opponent, upon learning of the unfair tactics, persuaded a blacksmith to drive sharp nails into his pair, with the result that the ring was as soaked in blood as if a pig had been killed there, and the Tanvats champion had to be taken home on a cart.



Photograph by Clifton Adams

THE SMALL END OF A FENLAND DUCK DECOY

In the center of the wood is a large pond edged with weeds and full of waterlilies. Out of this pond lead several large pipes, or canals, inclosed by nets. The wild birds are carefully lured into these, driven to the small end, and there removed and killed (see text, page 613).



© Donald McLeish

ROME'S LEGIONS MARCHED BENEATH THE NEWPORT ARCH

Lincoln is one of the oldest cities in England and vies with Chester in the interest of its early remains. This gateway was built probably about the dawn of the Christian Era.

© Frank Smith

A HAPPY SEA SERPENT NAVIGATES THE ENGLISH COAST

In England one can never be a great distance from the sea, and millions of people enjoy the tonic effects of salt water, salt air, and sunshine on the broad beaches.

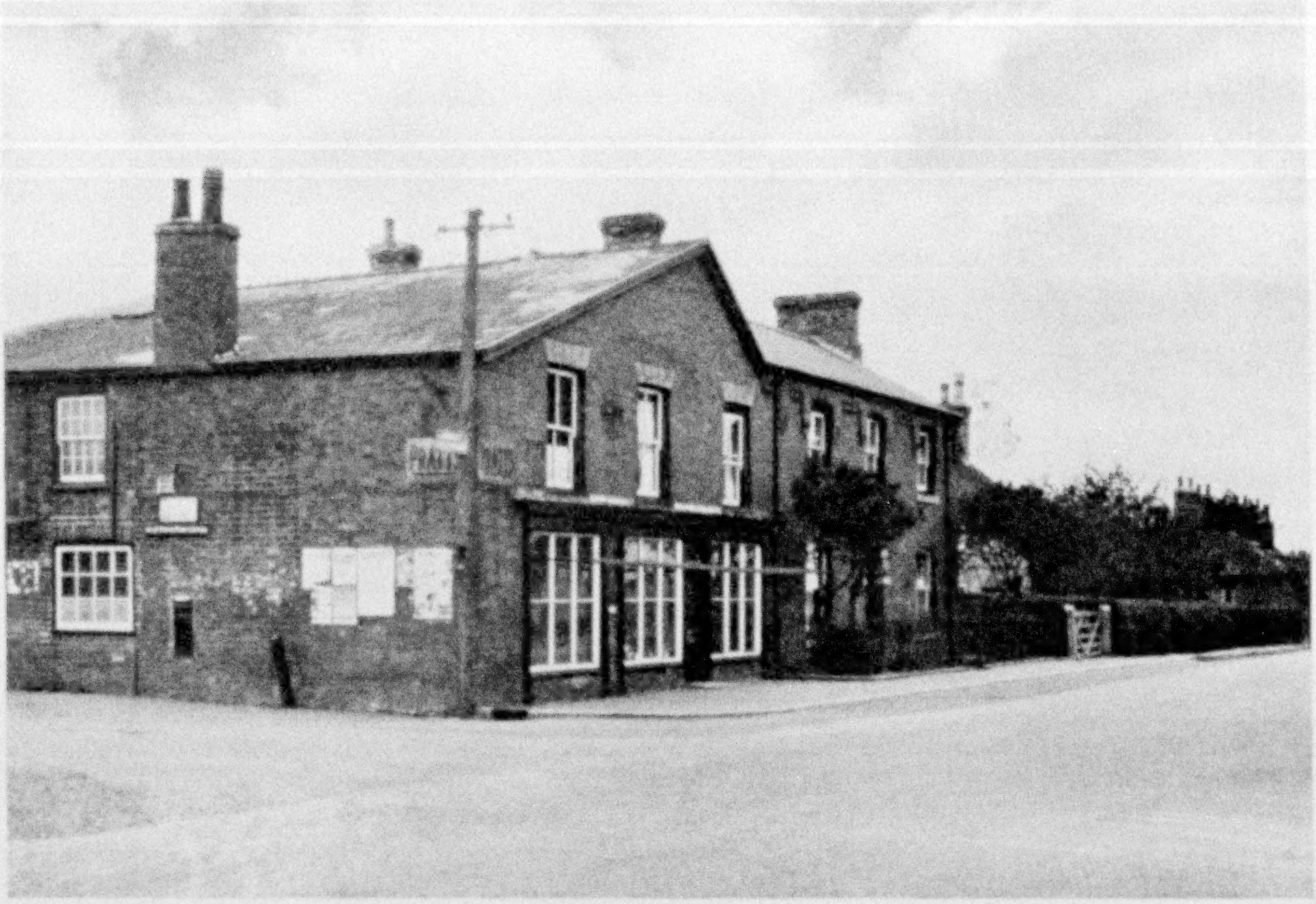
Presently I reached Parson Drove, where there is an interesting survival of the past in the shape of a woad mill. Woad grows to a height of six feet and has a blue-green leaf with a yellow flower. It is gathered in the fields and crushed by machinery to produce a splendid dye, which was used by our ancestors for staining their bodies blue.

WHERE ST. GUTHLAC BESTED THE DEVILS

Soon after I left this mill the towers of Crowland appeared in the distance. Here, at the end of the seventh century, came St. Guthlac. At that period the island was the most remote of the whole archipelago and possessed by devils. A legend narrates how Guthlac, after being mercilessly tortured, conquered the devils and compelled Satan to bring the stone for the foundation of his oratory.

For years he lived in a tiny cell, until his ordination; but two centuries later a curse fell on the abbey which had been erected to his memory. The performance of the Black Mass and other unholy rites resulted in an apparition of Satan, who declared that God had forsaken the blasphemous brethren, and that their buildings would be destroyed. Sure enough, this prophecy came to pass in 870, when the Danes sacked the monastery and slew every monk in its precincts.

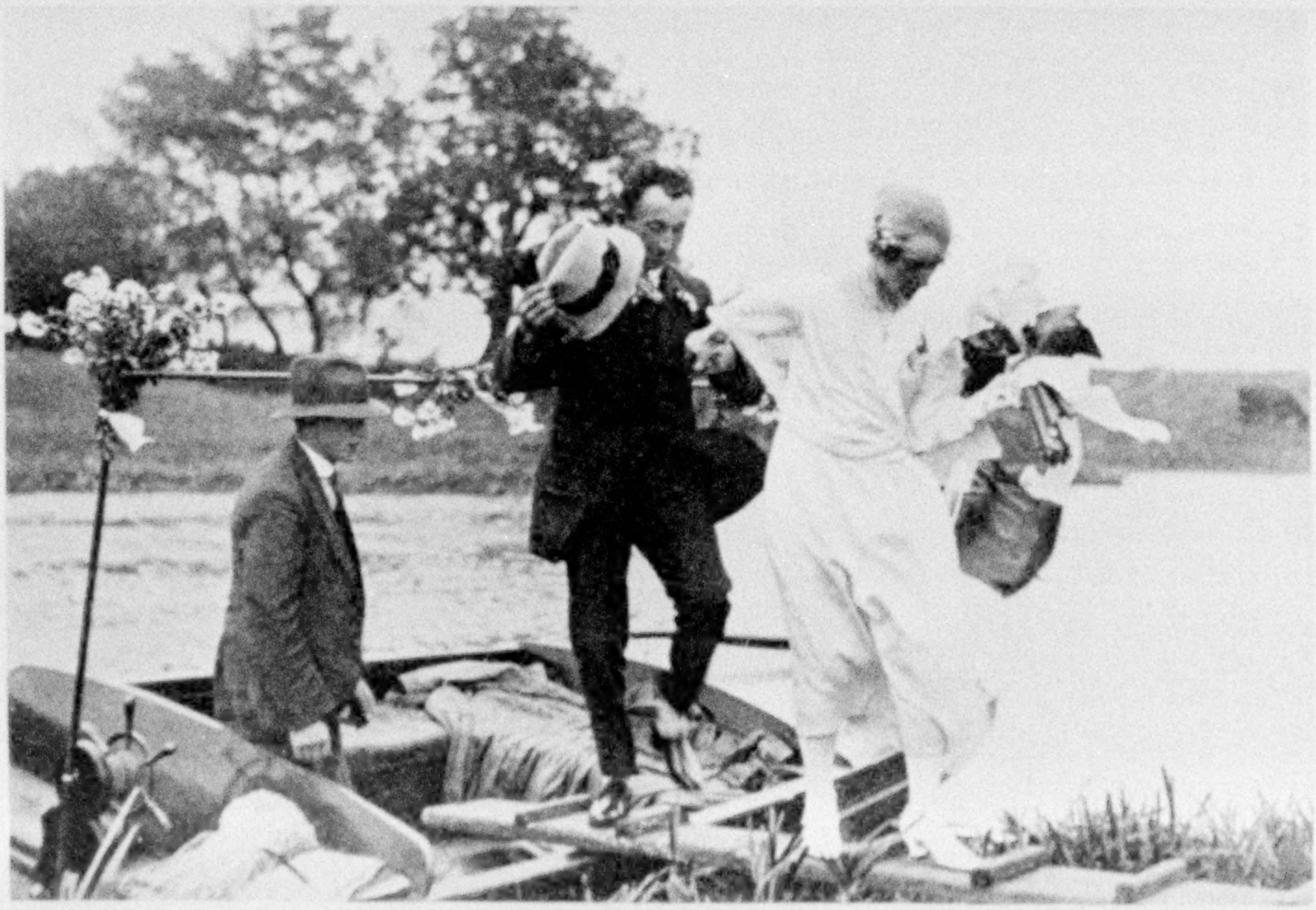
Soon afterward a new Crowland arose on the ruins of its predecessor and became the richest of all Benedictine foun-



Photograph by Clifton Adams

A FAR CRY FROM BROADWAY

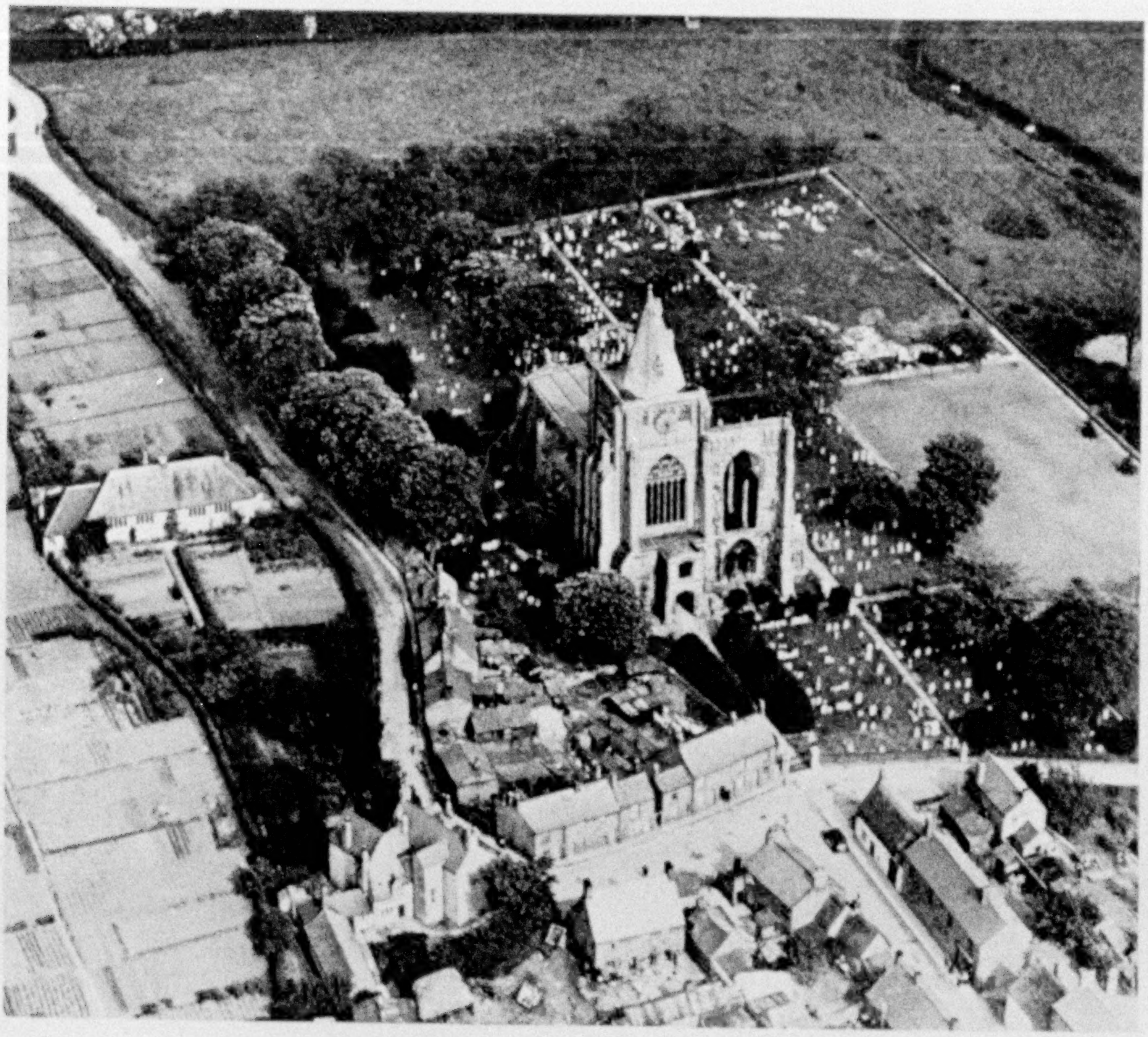
This English New York has little in common with its New World namesake. It is a tiny Lincolnshire village whose principal street knows not the bustle and din of modern traffic (p. 616).



Photograph by Starr and Rignall

A HONEYMOON EQUIPAGE IN THE FENLANDS

During wet seasons the rivers frequently overflow, flooding the land for miles around. Even when the rains are not heavy, the soil is of such a boggy nature that it is impossible for vehicular traffic to pass along some of the roads.



© Central Aërophoto

CROWLAND ABBEY WAS AN IMPORTANT SEAT OF LEARNING BEFORE THE NORMAN CONQUEST

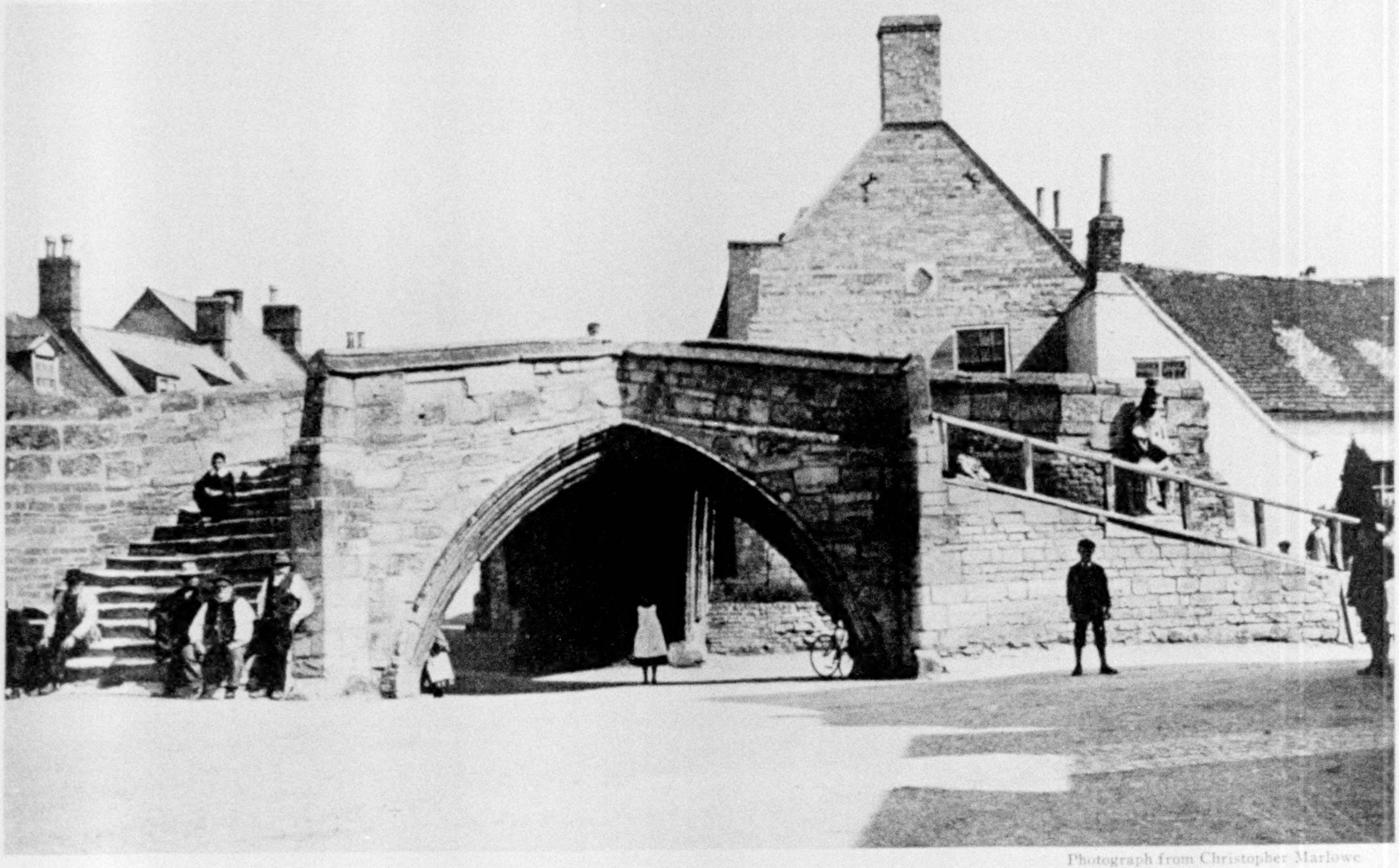
Early in the eighth century King Ethelbáld established a monastery here, dedicated to Saints Bartholomew and Guthlac. In 1113 a magnificent church rose on the site, but little of it remains to-day and the monastic buildings have vanished completely. Some of the earliest members of the Cambridge faculty may have come from this institution.

dations. It continued to exercise dominion over the fens until its dissolution, in the reign of Henry VIII (see, also, text, page 592). The greater part has vanished, but the north aisle and southwest tower contain some interesting inscriptions. Noteworthy, too, is the west front, with its six tiers of statues, and the quatrefoil over the west door of the nave.

ENTICING DUCKS THROUGH PIPES

In olden days the Welland used to flow through the main street of Crowland, and in the market place is a curious triangular bridge over dry ground. It consists of three segments of a circle which meet at a point in the center. The east road goes to the abbey, the northwest to Stamford, and the southwest to Peterborough (p. 614).

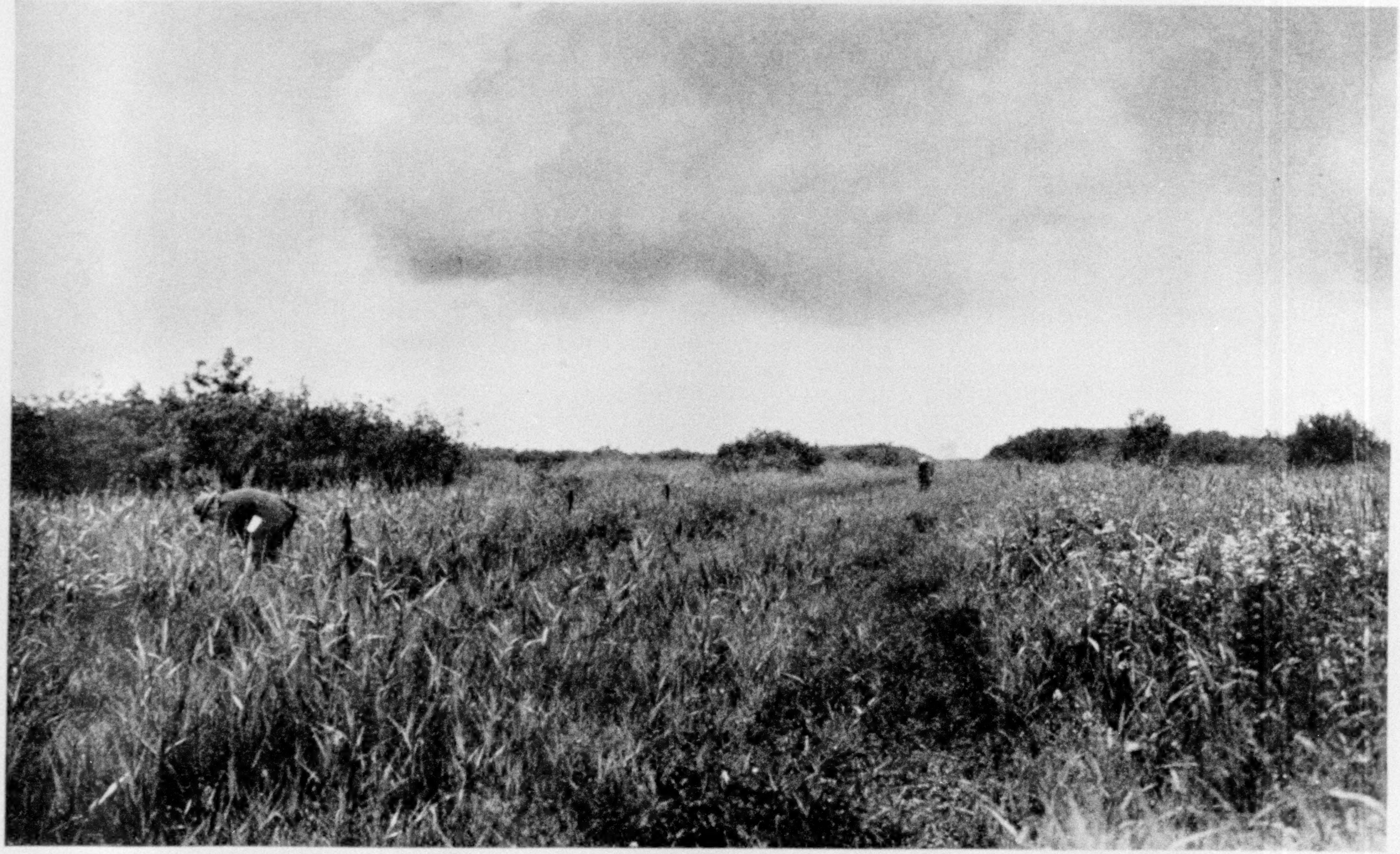
A mile or two farther brought me to one of the few duck decoys left in the fen country. It stands some five miles from any habitation and is approached by a long avenue of lime trees. A path leads to the entrance gate, which admits to what at first looks like a wood. In the center is a pond full of weeds and waterlilies, with numerous promontories and rocks. Out of it lead eight large pipes, one for each direction of the wind. They are inclosed by nets fastened to continuous fences of stakes on the banks. When a drive takes place the ducks, which have flown from the Netherlands and settled on the pond,



Photograph from Christopher Marlowe

THE STREAM IS GONE, BUT THE BRIDGE REMAINS

Once Welland's waters flowed beneath the triangular bridge at Crowland. Now a street passes under it, and roads from the east, the southwest, and the northwest converge at its center. On the bridge is a weatherworn statue. Some take this to be the Savior, others the Virgin Mary, while the townsfolk are virtually unanimous in declaring it to represent St. Guthlac (see, also, text, page 613).



© A. Broom

OF ALL THE FENS ONLY WICKEN REMAINS UNDRAINED AND IN ITS NATURAL STATE (SEE TEXT, PAGE 634) are enticed up one of these pipes. A trained dog runs about and drives tame ducks to the trap entrance, while the keepers hide in the bushes at the far end.

At length scores of wild fowl follow the decoys into the net and swim toward the far end. Instantly a net is dropped over the opening, and the keepers take out the birds one by one and wring their necks. As many as 200 are sometimes disposed of in a day, the season lasting from August to March (see page 610).

From here I could see, far over the marshes, the noble proportions of Peterborough Cathedral.

As one sees the bustling modern city, it is hard to realize that until the middle of the 19th century Peterborough remained about as little changed as any monastic borough in the kingdom. Up to 1850 the night watchman still went his rounds, calling out, "Fine night and 4 o'clock," or "Past 5 and a wet marnin'," as he tramped over the cobblestones. Sedan chairs were regularly used by the wealthy; the corn market was held in the open street; turnpikes took toll of everybody at the gates; the post office consisted of but two back rooms.

Then came the establishment of great railroad works, and the population increased from 3,500 in 1807 to upward of 40,000 to-day.

Near Peterborough are the fenland bulb plantations, which constitute a most important industry. Practically every farm devotes acres to the cultivation of tulips. Women, wearing kerchiefs on their heads and yellow aprons, work in the fields with the men.

WHERE HEREWARD THE WAKE HELD COURT

The road now lay through the Cowbit Wash lands, which are under water for the greater part of the year, to Bourne, where Hereward the Wake held his court. The castle dates from Edward the Confessor's time; but there is little to see except the keep, which had four square towers and was placed on the summit of an artificial mound surrounded by a moat. A strong gatehouse protected the drawbridge, while the outer estate of eight acres was guarded by a second moat. It must have been a brave sight when Hereward at the head of his men marched over the drawbridge after some foray with Norman usurpers.

In this town a curious old custom is observed every Easter. A certain man left a piece of land the proceeds from whose rental were to be given to the townsfolk. An auctioneer attends and starts a number of boys running over the field. As they run, bids are made, and the last bidder, before the race is won, is entitled to hold the land for a year.

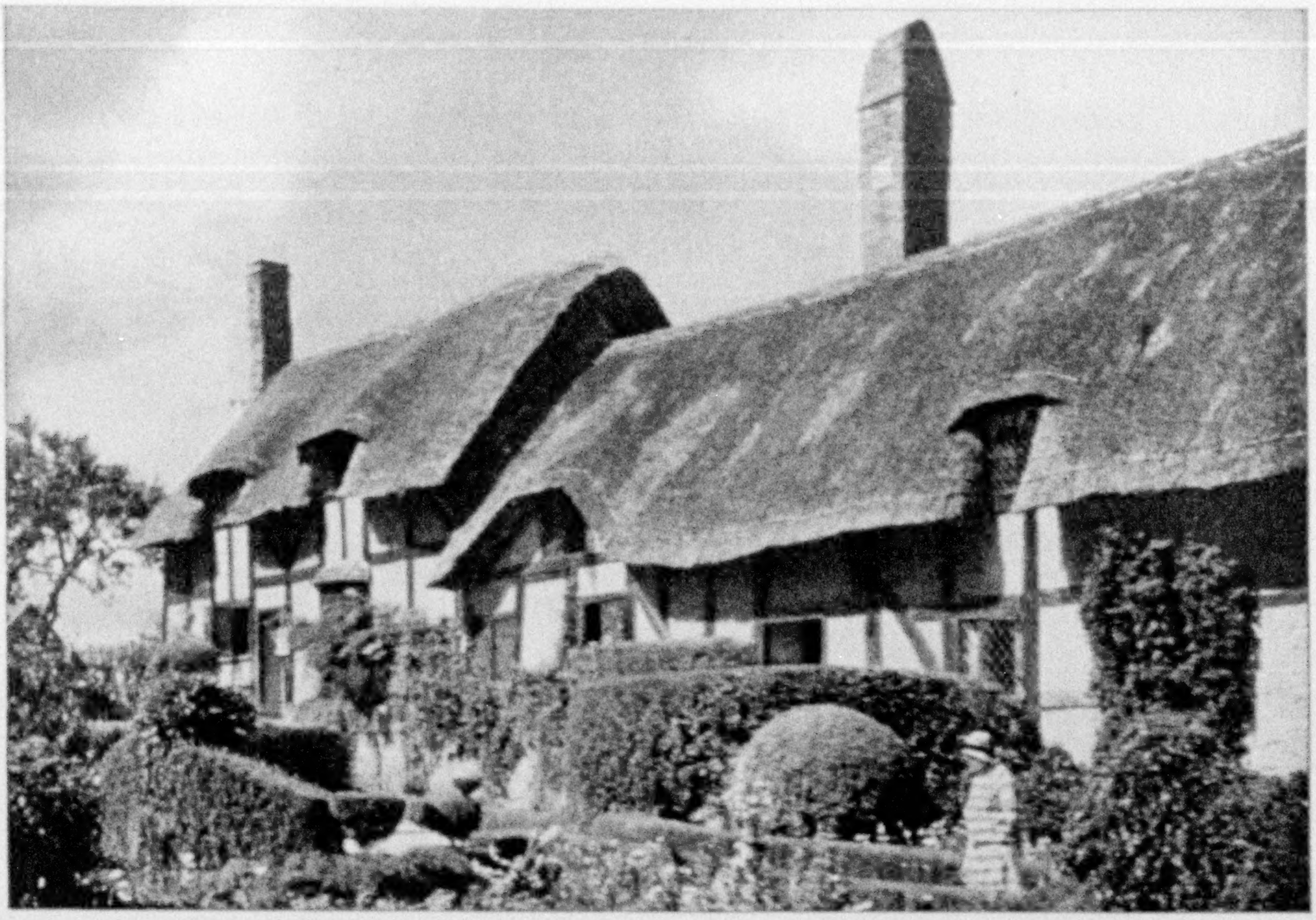
My route from here turned northward to Swineshead, where tradition says a monk poisoned King John as he was attacking the abbot's sister. In order not to arouse suspicion, the monk mixed poison in two goblets of wine, one of which he proffered to the king. John instantly seized the other, bidding the monk drink the one which the king had declined. On seeing him obey, the monarch grew bold, drained his goblet to the dregs, and fell presently into a fit. He survived but a few days, during which he was conveyed in a litter to Newark. The heroic monk survived just long enough to hear of his wicked sovereign's death.

A SIGNPOST POINTS TO AMERICA-IN-LITTLE

Away thence by a derelict station on a deserted railroad rejoicing in the name of Dogdyke; away by the hamlet of Froghall to Wildemore Fen, where in all directions stretch potato fields, dikes, and embankments (see, also, page 606).

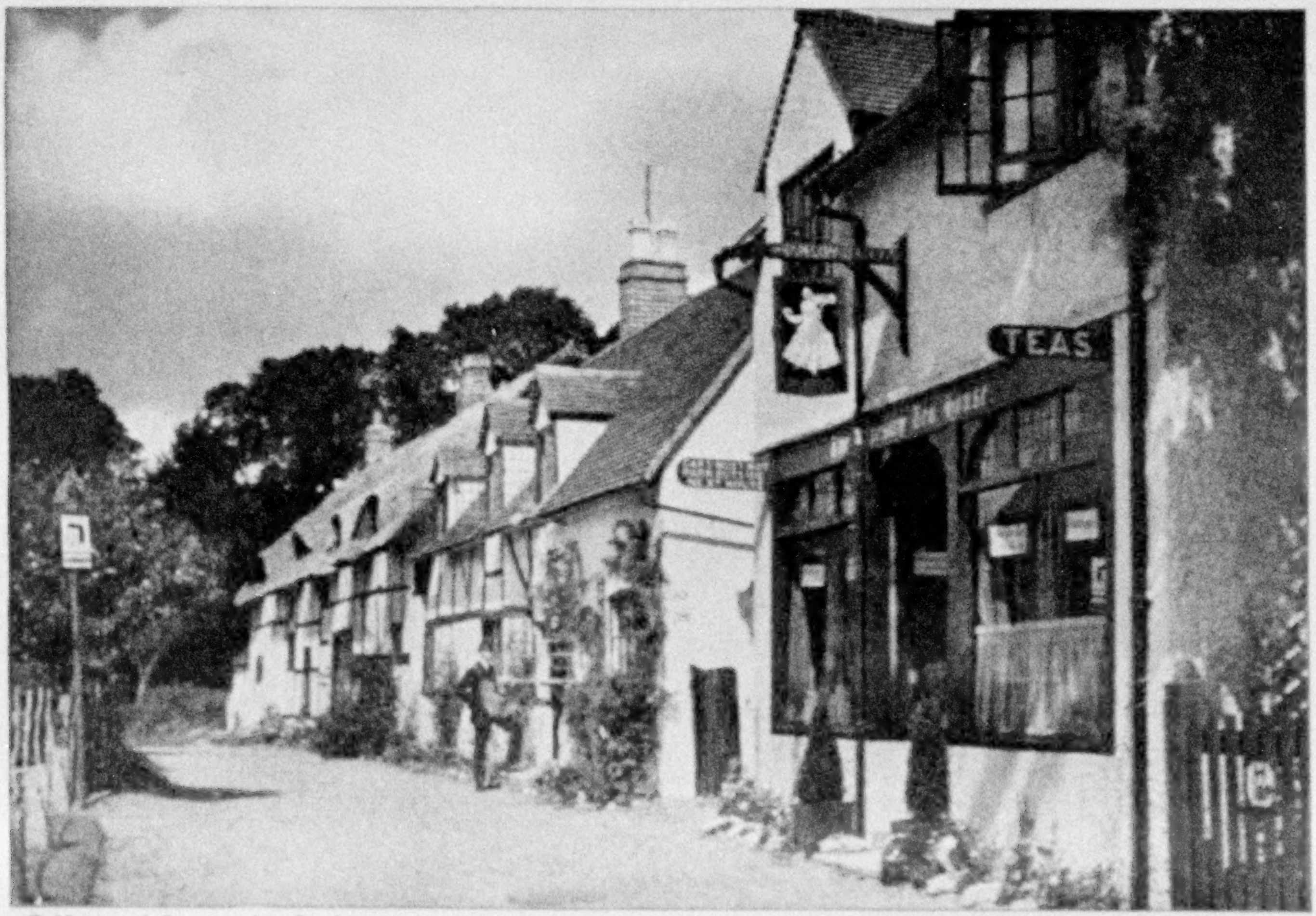
I could scarcely credit my senses when I examined a white-painted signpost standing like a sentinel at a junction of three roads. One arm of the post pointed over my shoulder to Boston; the second directed me to California—how many miles distant I did not even guess—while the third informed me that right ahead lay New York! I hurried on and presently arrived at a post office, which was also a general store, and a small cluster of cottages—New York! (See page 612.)

The population is engaged chiefly in farming and in repairing its boots, which suffer horribly from the mud of the dikes. I do not think that these New Yorkers can experience any of that excitement and nerve strain characteristic of their cousins across the water, and I venture to say that few, if any, Americans have ever visited them.



HERE SHAKESPEARE LAID SIEGE TO ANNE HATHAWAY'S HEART

Within easy walking distance of Stratford-on-Avon is the tiny hamlet of Shottery, where the man who was to write "Romeo and Juliet" came to woo the lady of his choice. Her home is visited each year by thousands of tourists.



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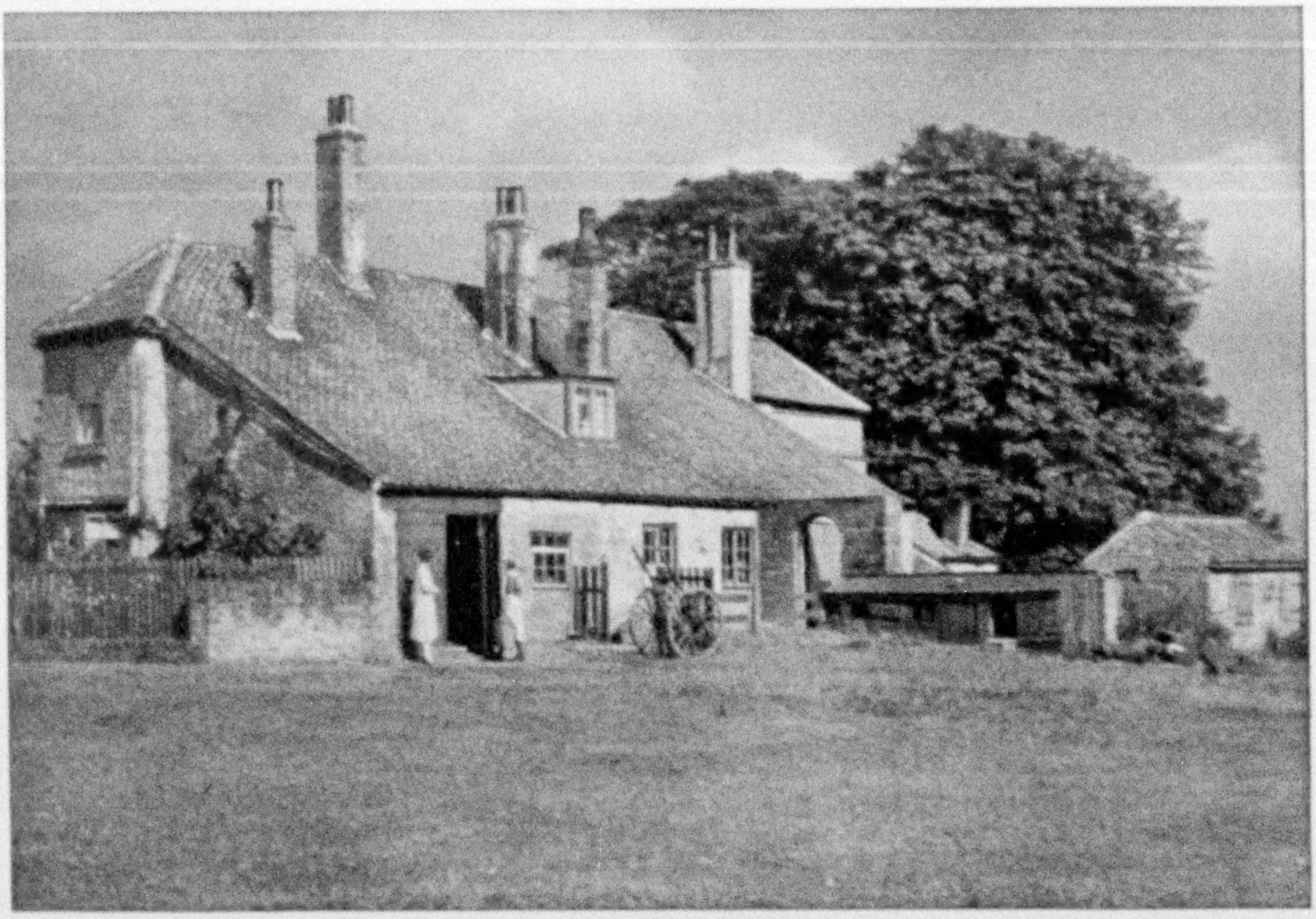
Autochromes by Clifton Adams

VENERABLE COTTAGES FLANK THE LANES ABOUT STRATFORD

The postman is standing before a house which was occupied by Shakespeare's younger daughter Judith, after her marriage to a vintner. Notice the traffic sign indicating a turn to the left.



AT SCROOBY MANOR, IN NOTTINGHAMSHIRE, THE PILGRIM CHURCH WAS BORN

The old place has fallen from the manorial estate it enjoyed when William Brewster lived there (1588-1608). In it his Separatist group met and the movement was begun which later led to the *Mayflower's* departure for New World shores.

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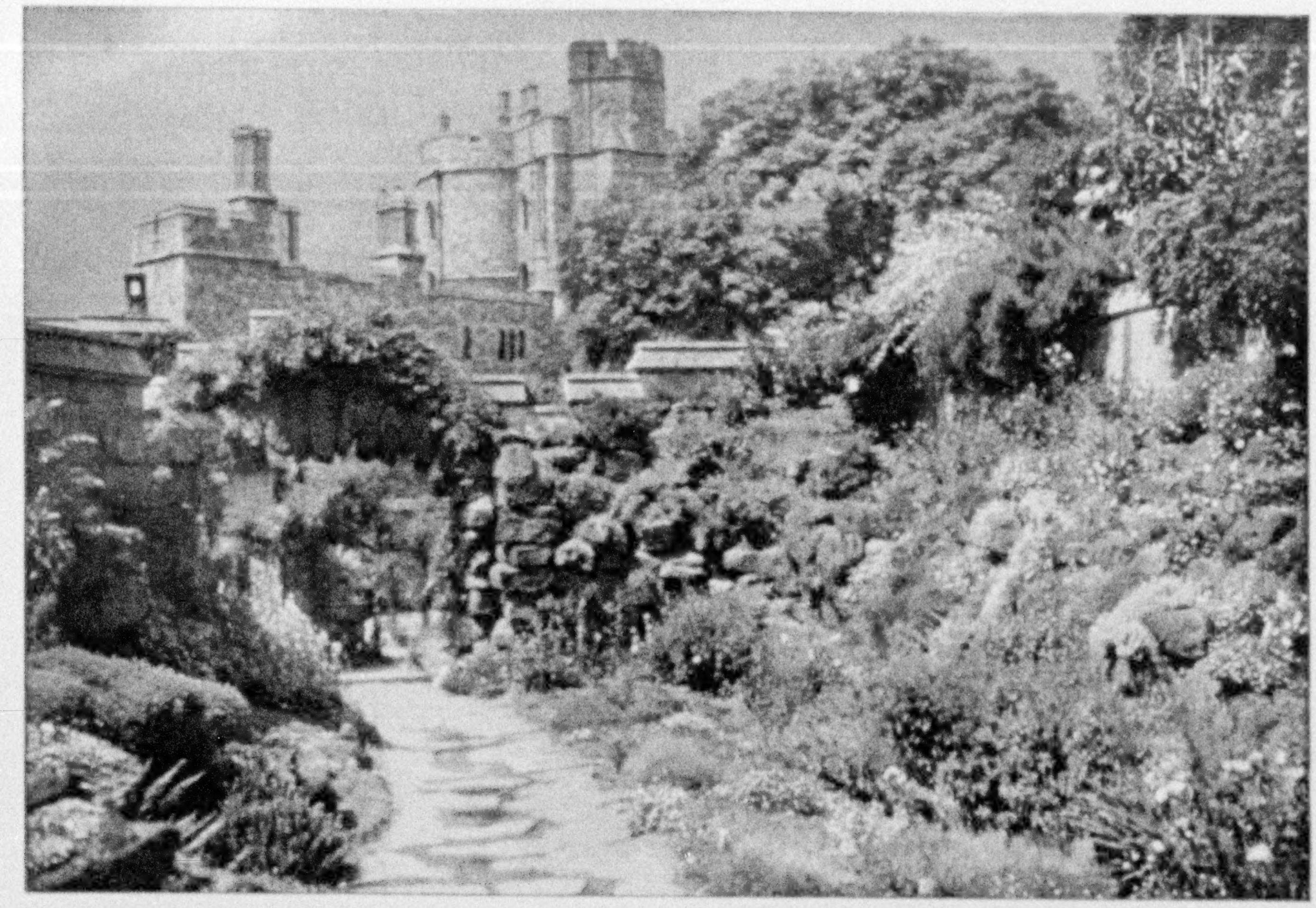
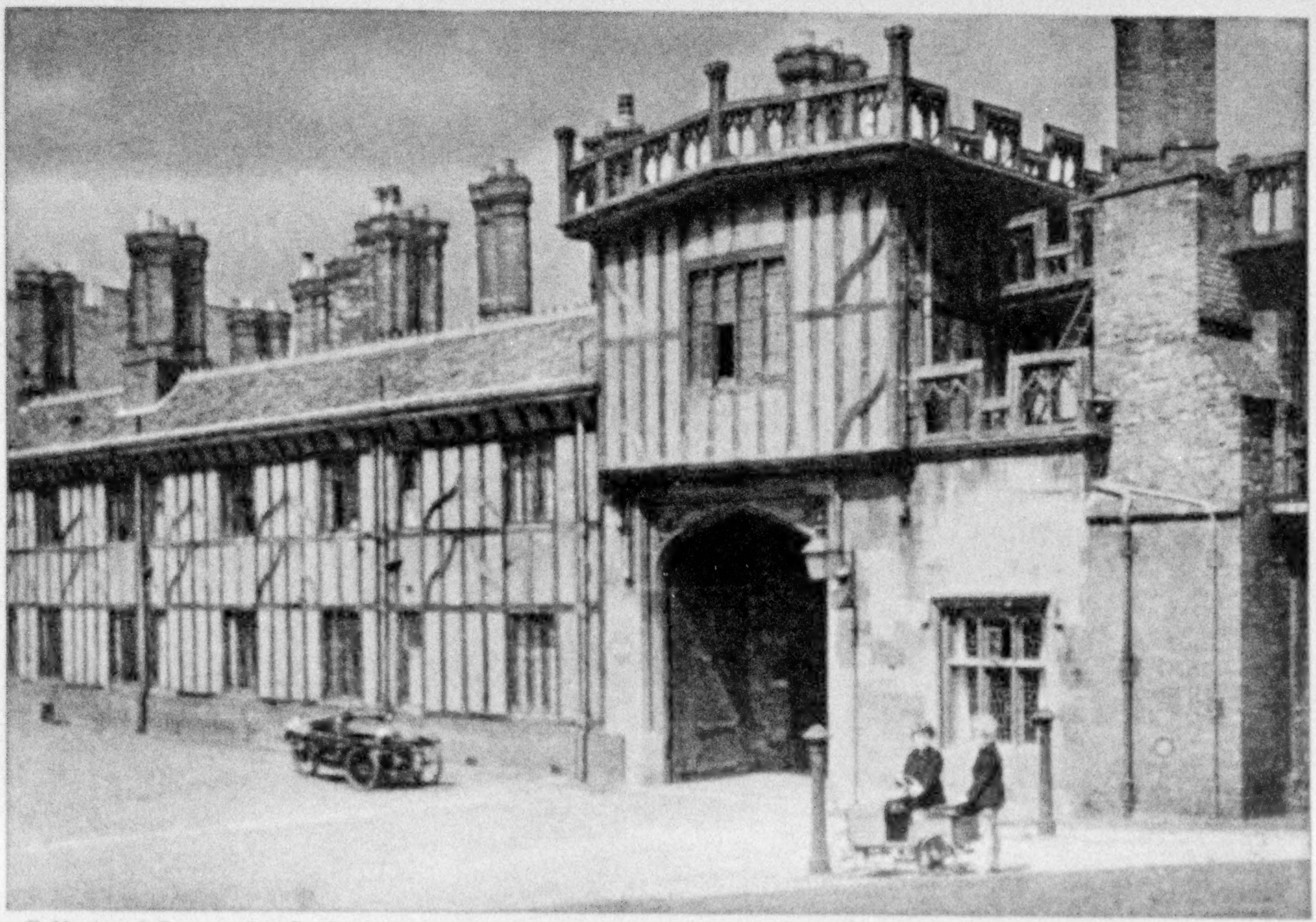
FLOWERS THRIVE IN THE RICH FENLAND SOIL ABOUT BOSTON

The district in eastern England commonly known as the Fens is a low-lying tract of more than half a million acres. It was once a bay of the North Sea, but in the course of centuries has become silted up.



FOR MORE THAN EIGHT CENTURIES WINDSOR HAS BEEN A ROYAL RESIDENCE

Begun by William the Conqueror and beautified by many of his successors, the castle is one of the noblest buildings in Europe. The gay blooms of its rock garden contrast pleasantly with the gray of its walls and towers.



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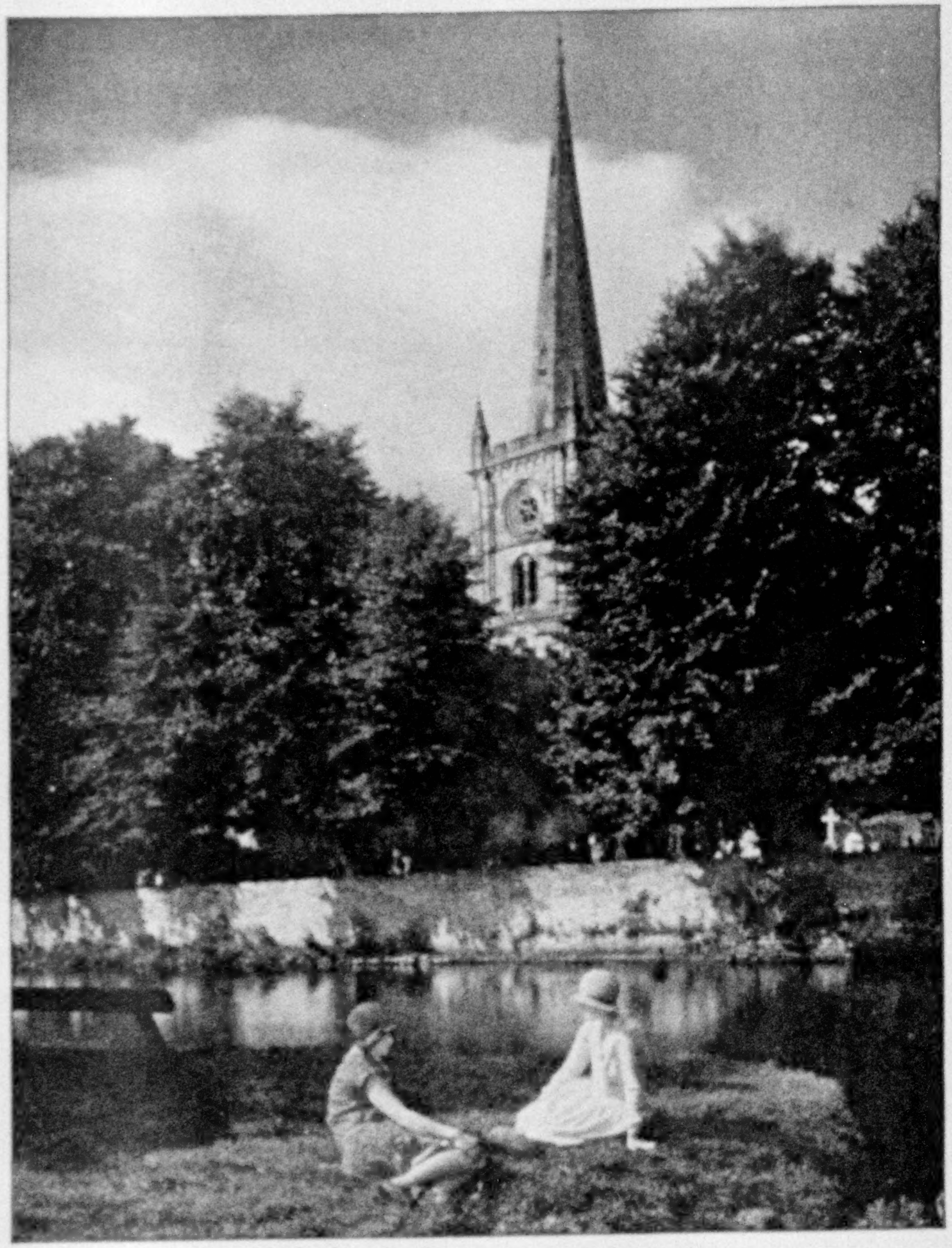
ANCIENT QUARTERS WITHIN THE WALLS OF WINDSOR CASTLE

Although used as a residence at various times by nearly all the sovereigns since the first William, Windsor was little more than a medieval castle until the reign of George IV. That monarch transformed it into a modern palace.



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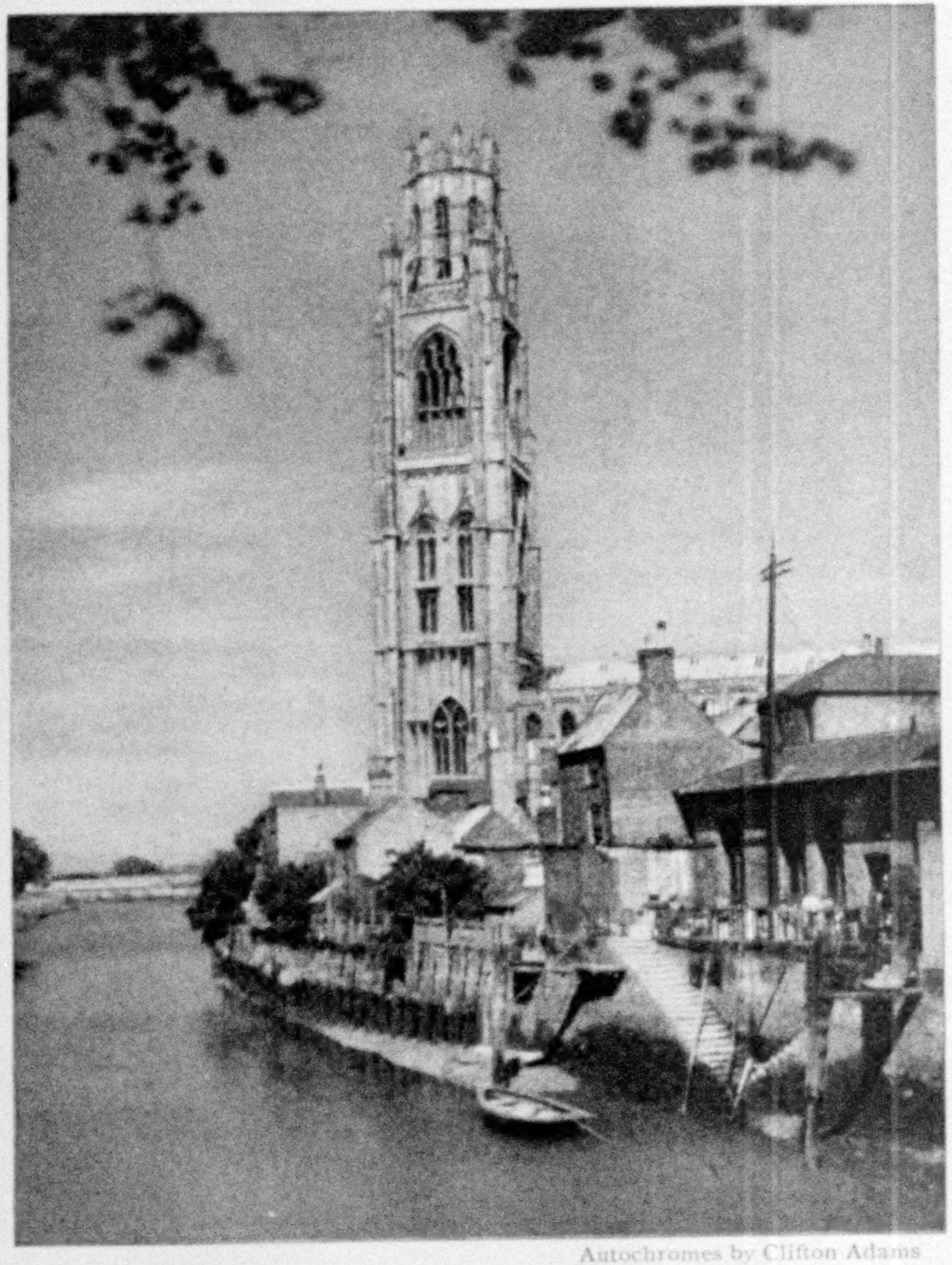
A SHRINE REVERED BY ALL THE WORLD

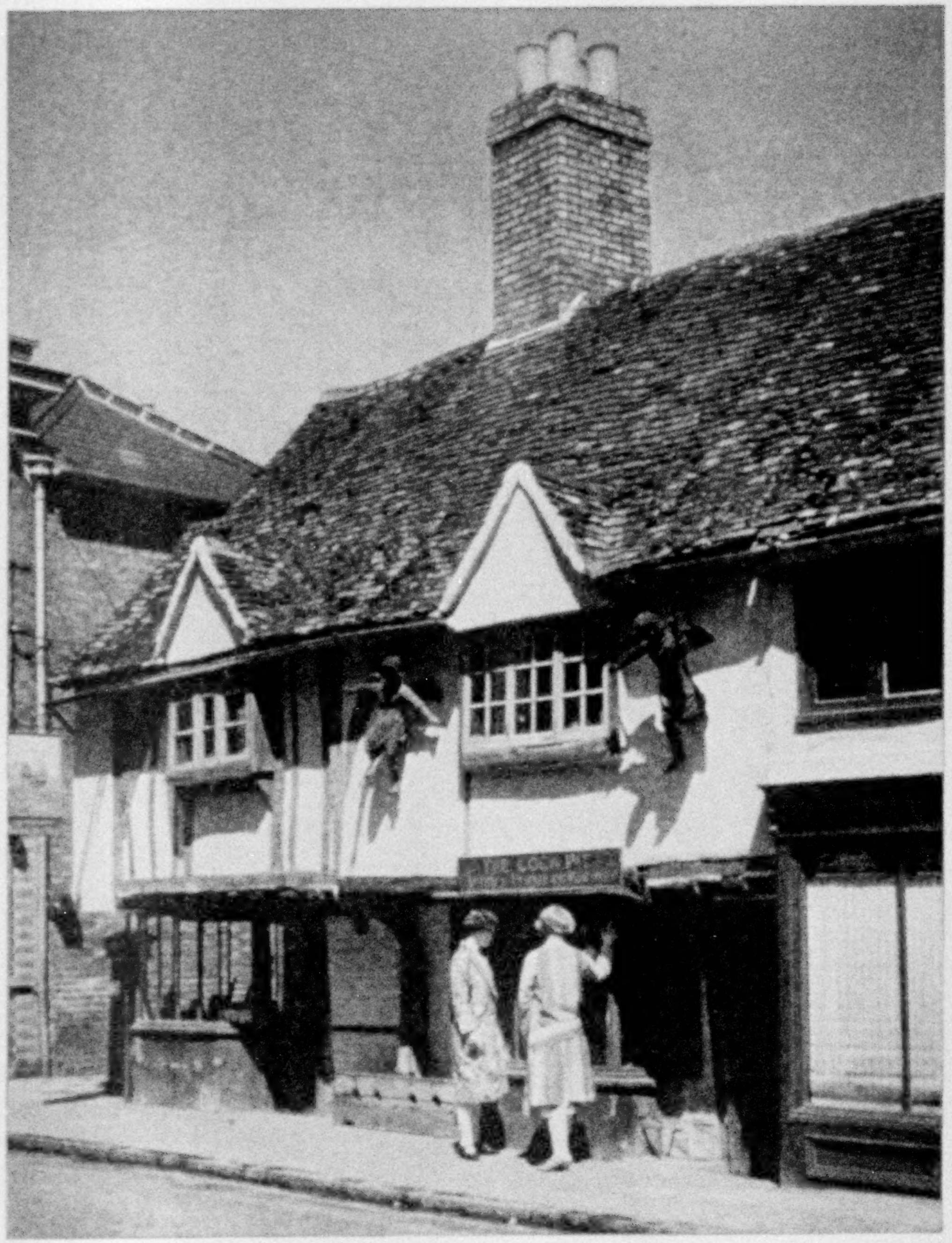
Beside the placid waters of the Avon at Stratford, the remains of William Shakespeare rest in Holy Trinity Church, which stands in a grove of stately elms.



Autochromes by Clifton Adams

A FAMOUS LANDMARK OF THE FENS

St. Botolph's, one of the finest parish churches in Christendom, is the chief pride of England's Boston. The lofty tower can be seen for many miles over the level countryside.



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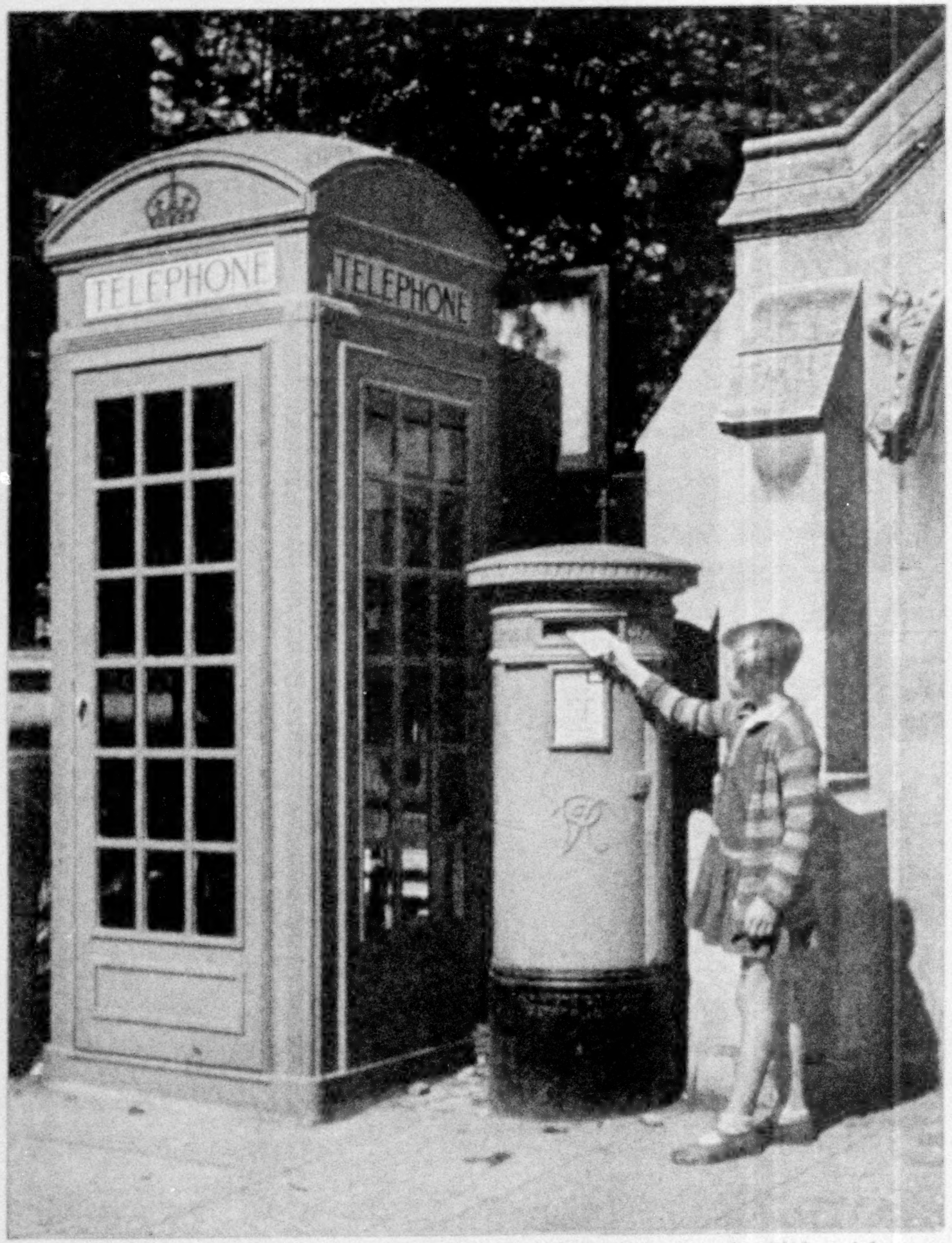
A MONARCH ONCE FREQUENTED ETON'S COCK PIT INN

In Charles II's day this old building was a tavern where cockfights were held, and the "Merrie Monarch" is reputed to have come clandestinely from near-by Windsor to see the feathered warriors perform.



Autochromes by Clifton Adams

THEY SPEED THE NEWS FROM OXFORD

Postal, telephone and telegraph services in England are all conducted by the Government. Oxford, the seat of a world-famous university, possesses rare treasures of medieval art and architecture.

SMALL STANDS OF GRAIN ARE USUALLY MOWED BY HAND

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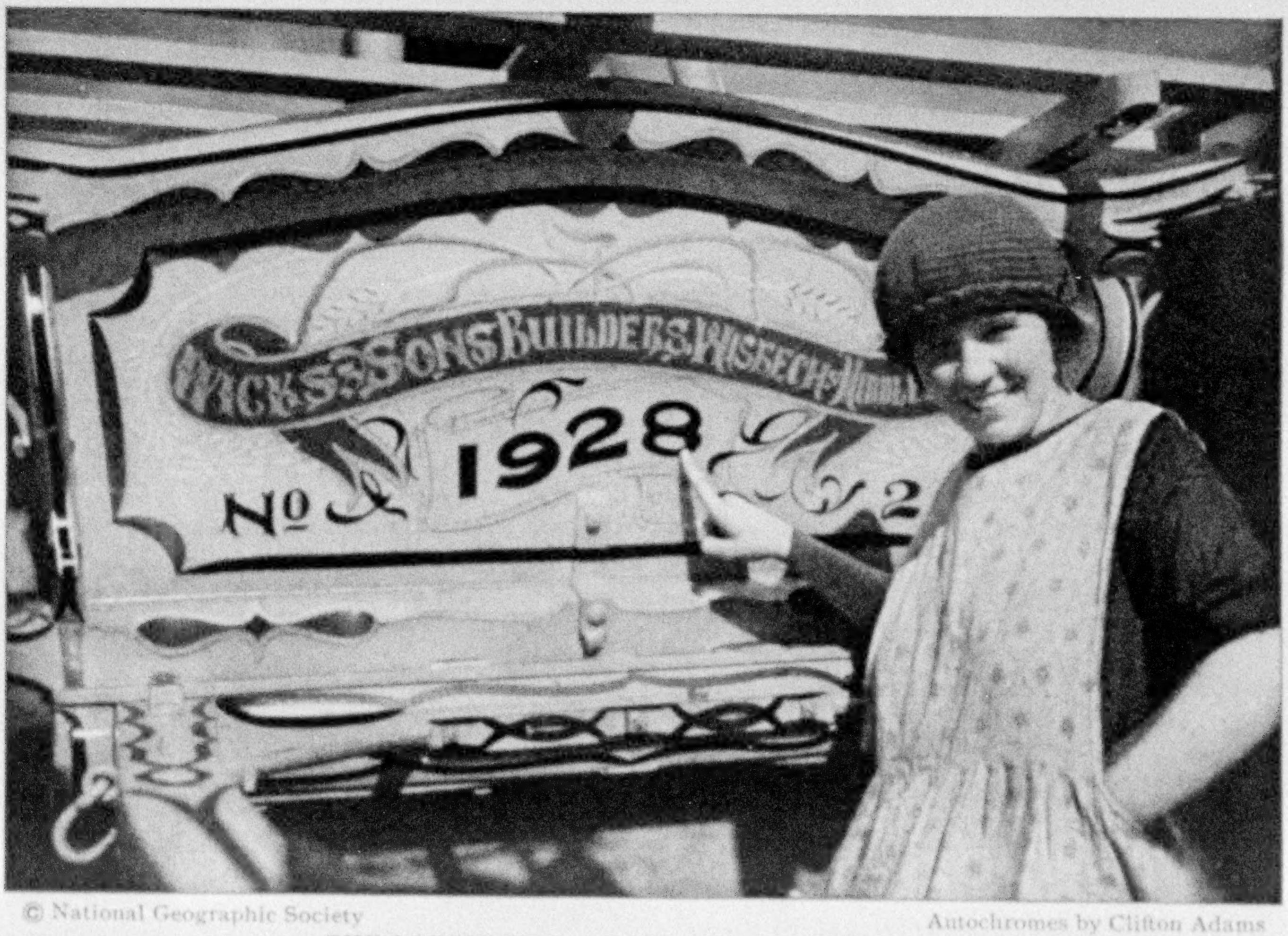
Autochromes by Clifton Adams

THE PRODUCTS OF GREAT BRITAIN'S FIELDS DO NOT SUFFICE FOR HER NEEDS

Although little usable land lies idle, the island can not raise sufficient foodstuffs to feed its population, which averages about 500 to the square mile. A field of barley in Lincolnshire.

GARDENS OF CALENDULAS BRIGHTEN THE LINCOLNSHIRE LANDSCAPE



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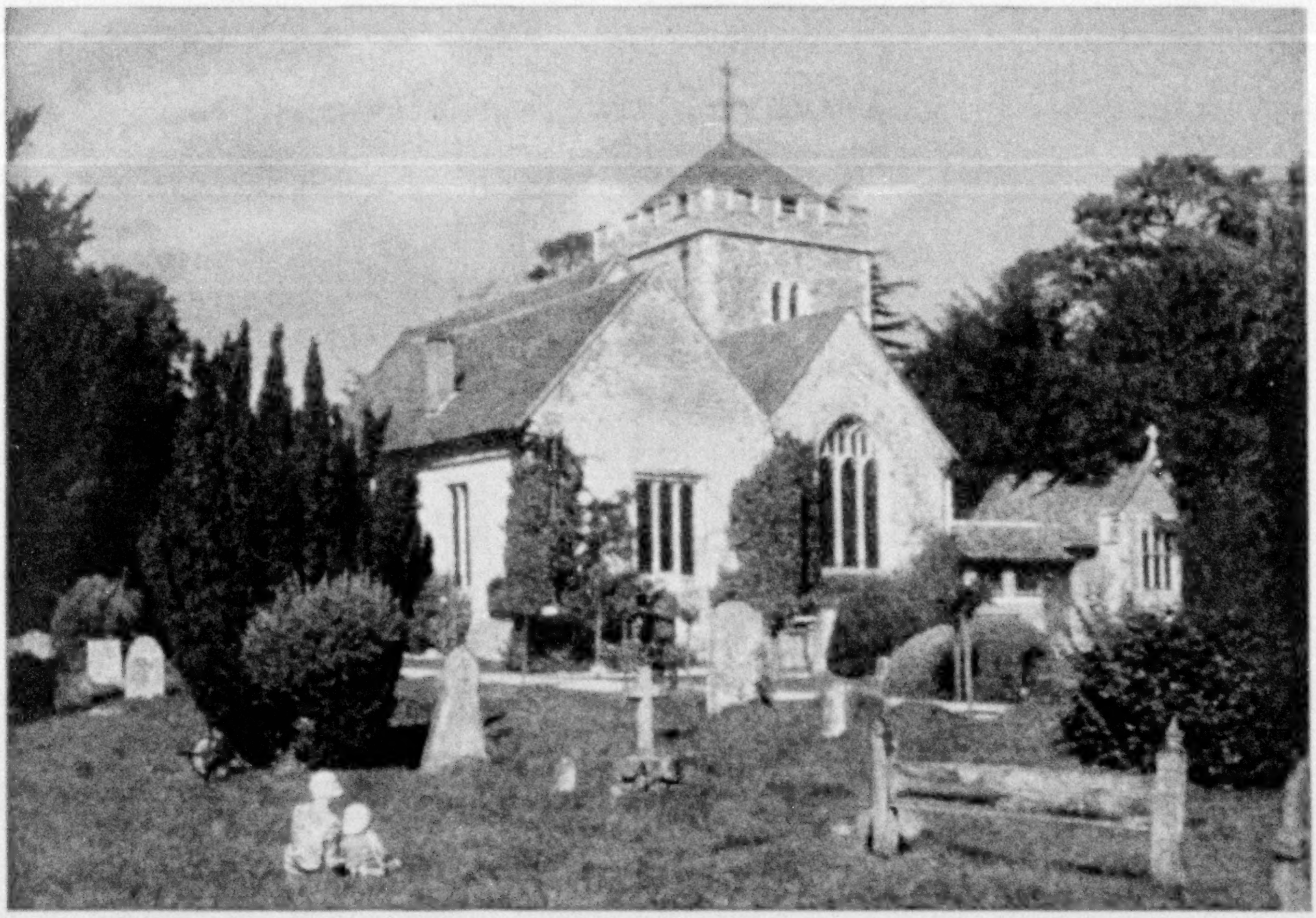
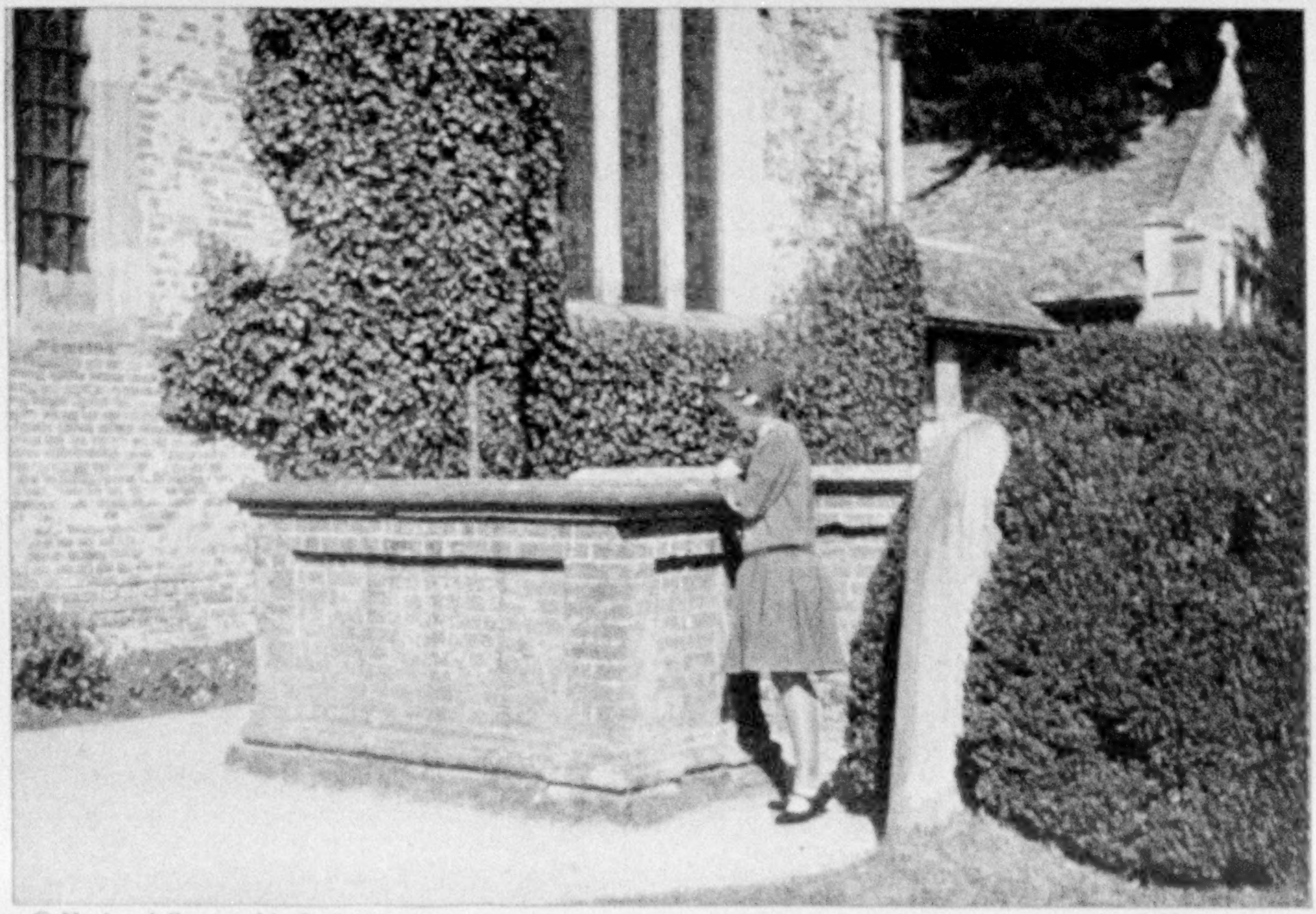
THE LATEST THING IN FENLAND FARM CARTS

Vehicles of this kind cost in the neighborhood of $175 and are the objects of considerable pride on the part of their owners. They are constructed to render long service.



THE "ELEGY IN A COUNTRY CHURCHYARD" HAS IMMORTALIZED STOKE POGES

The scene of Thomas Gray's famous poem is a place of pilgrimage for countless visitors. The old church dates from the early 14th century.



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Autochromes by Clifton Adams

"HERE RESTS HIS HEAD UPON THE LAP OF EARTH"

Gray died in 1771 and was buried in the churchyard which inspired his greatest work. In accordance with his wishes, he was placed in this tomb with his mother, close to the ivy-covered church (above).

Beyond America-in-Little marshes gave place to woods and hedges, while the road wound steadily uphill.

"GRANDSIRE BOB" GETS A SILKEN ROPE

I skirted the hills until I reached the plain again at Burgh-le-Marsh. Connected with this place is a story of old-time wreckers. In former days the coast villages were the headquarters of ruffians who deliberately lured ships to destruction and shared the profits with the lord of the manor. One of the gangs had established itself in Burgh, which was then a seaport, though now it is separated from the ocean by three miles of salt marsh.

In 1629 a storm drove the *Mary Rose* off her course, so that she headed straight for the sand banks. Observing her plight from the shore, the old sexton climbed up to the belfry and started ringing a great bell, known as "Grandsire Bob," a signal which all mariners would recognize. The wreck-hunters, who were waiting on the beach, heard the bell in amazement and, as they realized the ringer's intention, broke into angry oaths. With one accord they rushed to the church, but found the doors barred and all entrance blocked.

Soon came a faint cheer from over the water, as the ship's crew heard the signal and acted upon it. Meantime the infuriated wreckers burst open the belfry door, to find the sexton lying dead across his rope. His heart had given way under the strain. Curses and oaths were silenced, as they slunk shamefacedly away.

Later the captain of the *Mary Rose* learned the circumstances of his preservation; whereupon he bought an acre of land in Orby Field and called it Bowstring Acre, used the proceeds of its sale to purchase a silken rope for "Grandsire Bob," and directed the new sexton to take every possible care of that bell. So to-day one can see the great clapper in the roof, although its silken cord has long been lost.

THE HOME TOWN OF AMERICA'S HUB CITY

A pleasant road led from here across the marshland to Boston, whose tower is a landmark for many miles. In the seventh century St. Botolph founded a monastery on this site. The tower (page 628), with numerous flying buttresses, pinnacles, and carved heads over the entrances, is built up on three lofty stages and crowned by an octagonal lantern similar in design to that at Ely. The chancel possesses 64 stalls, the misereres attached to these being among the finest in the country. The Cotton Chapel was restored by the American citizens of Boston, Massachusetts, as a memorial to John Cotton, who, through persecution, emigrated in the 17th century.

The nave of this church also is of interest, the height of the pillars, the proportions of the arches, and the stained glass of the windows producing an effect equal to that of some renowned cathedral.

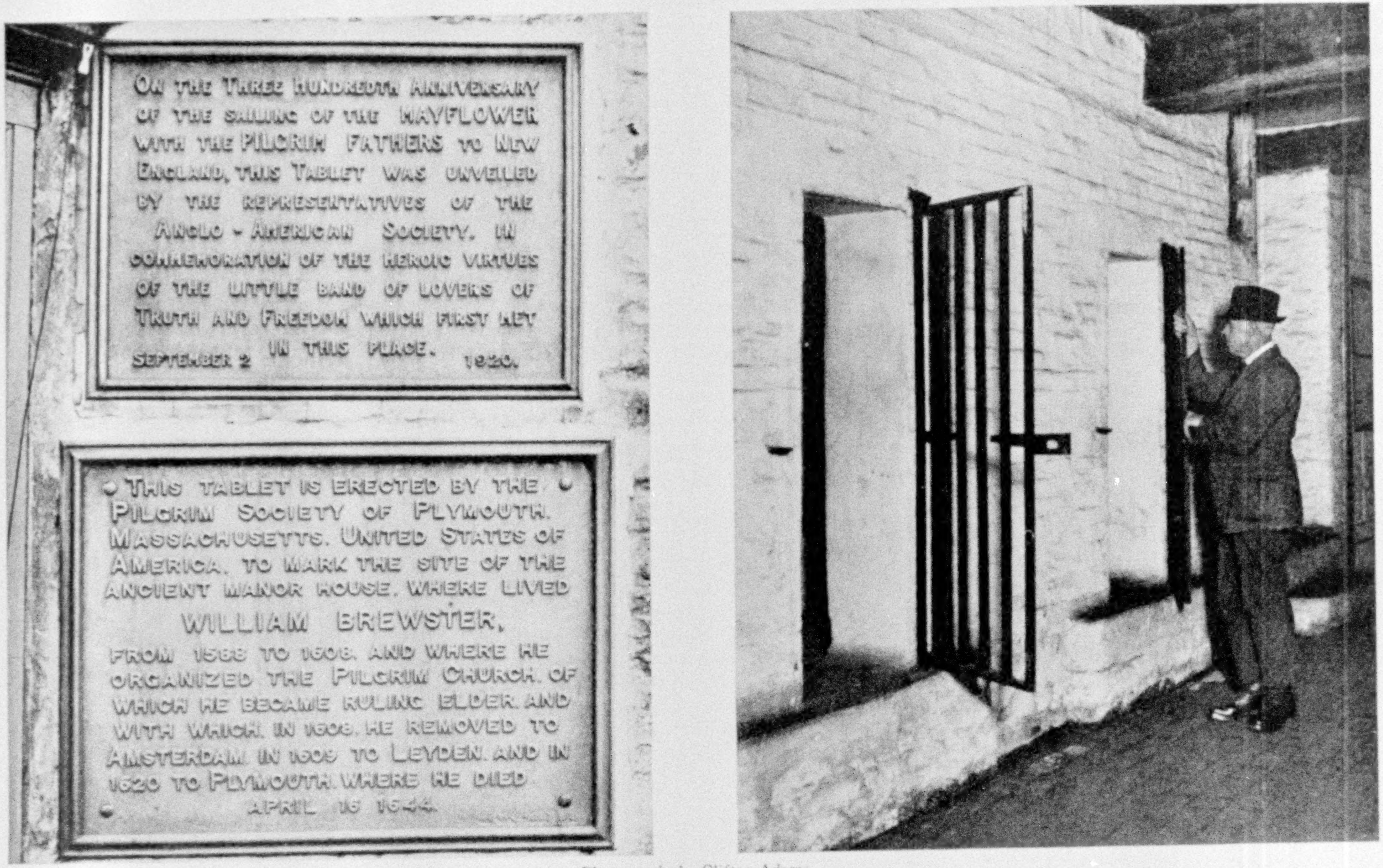
After I left Boston, the countryside began to change. Potato fields gave place to marshland, and it was possible to construct a picture of the whole area before drainage. On one side of the embankment lay rich soil yielding abundant crops. On the other stretched a waste of marsh and quicksands. Seals have been seen on the banks, and fishermen catch shrimps and crabs in the pools which the receding tide leaves.

Very similar must have been the old passage of The Wash! One had to start as soon as the tide was low and had to be quick, for the water swept over the sands with incredible force and would carry an unwary person off his feet. To convey carts and baggage wagons across must have been a terrific labor, and even people on horseback found it difficult to avoid the quicksands. If at the present time you watch the tide race over that marsh, you may see a bank which was high and dry covered with water in less than a minute.

GAMESTERS PLAY CARDS WITH A CORPSE AS DUMMY

Connected with Holbeach, the nearest town to the marsh, is the local legend of "the gamesters." In the days before the district was properly drained, villagers found their chief amusement in the inns, where they would while away the long winter nights with song, liquor, and card-playing. The Chequers was the scene of particularly licentious revels.

Now, it fell out that one of four friends who made a practice of meeting every evening died. Fearing neither God nor Devil, the three survivors met the next night, as usual, and, after drinking heavily,



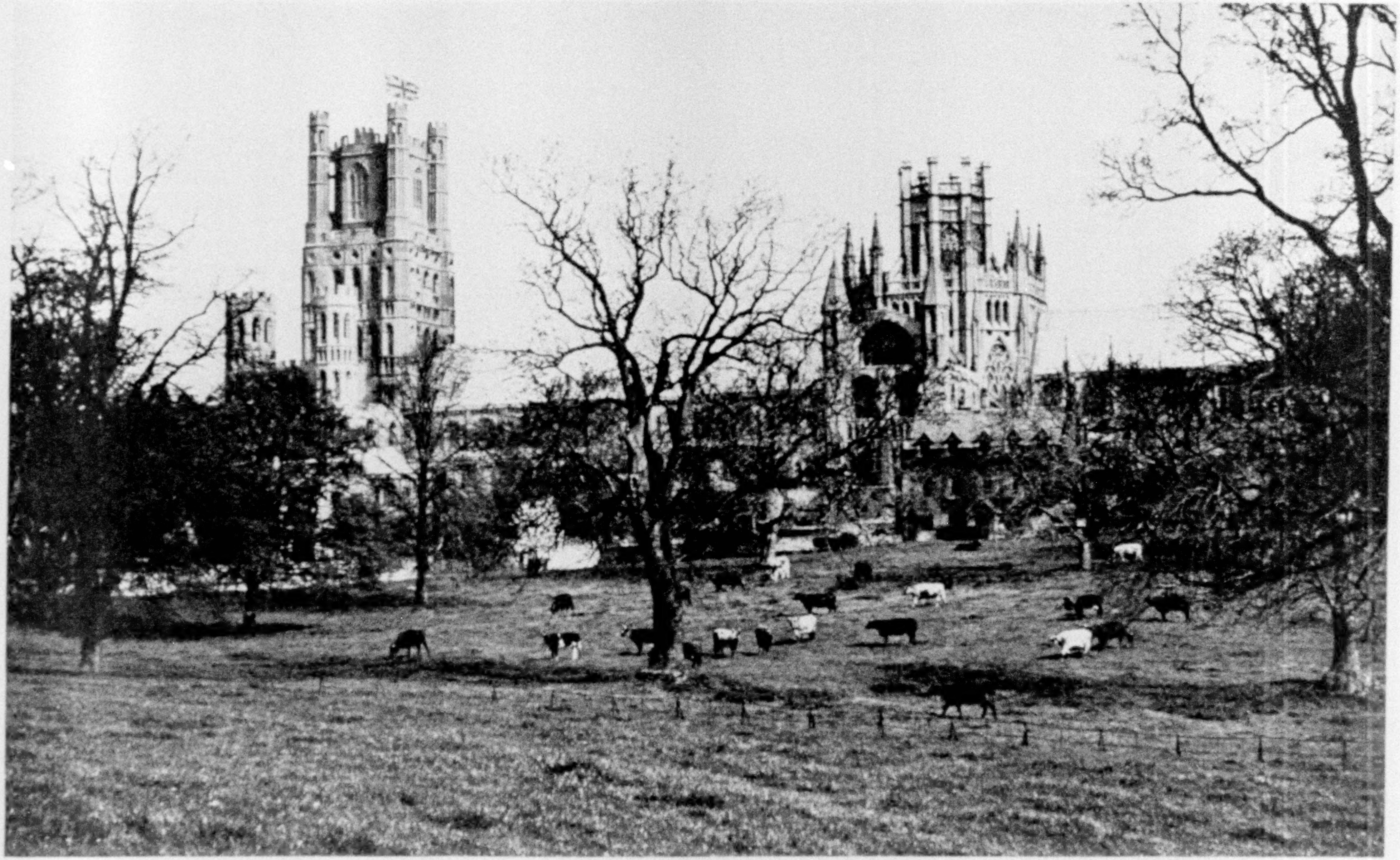
ON THE THREE HUNDREDTH ANNIVERSARY
OF THE SAILING OF THE MAYFLOWER
WITH THE PILGRIM FATHERS TO NEW
ENGLAND, THIS TABLET WAS UNVEILED
BY THE REPRESENTATIVES OF THE
ANGLO - AMERICAN SOCIETY. IN
COMMEMORATION OF THE HEROIC VIRTUES
OF THE LITTLE BAND OF LOVERS OF
TRUTH AND FREEDOM WHICH FIRST MET
IN THIS PLACE.
SEPTEMBER 2 1920.

THIS TABLET IS ERECTED BY THE
PILGRIM SOCIETY OF PLYMOUTH.
MASSACHUSETTS. UNITED STATES OF
AMERICA. TO MARK THE SITE OF THE
ANCIENT MANOR HOUSE. WHERE LIVED
WILLIAM BREWSTER,
FROM 1588 TO 1608. AND WHERE HE
ORGANIZED THE PILGRIM CHURCH. OF
WHICH HE BECAME RULING ELDER. AND
WITH WHICH. IN 1608. HE REMOVED TO
AMSTERDAM. IN 1609 TO LEYDEN. AND IN
1620 TO PLYMOUTH. WHERE HE DIED
APRIL 16 1644.

Photographs by Clifton Adams

REMINDERS OF THE PILGRIM FATHERS ARE FREQUENT IN THE MIDLAND AND EASTERN COUNTIES

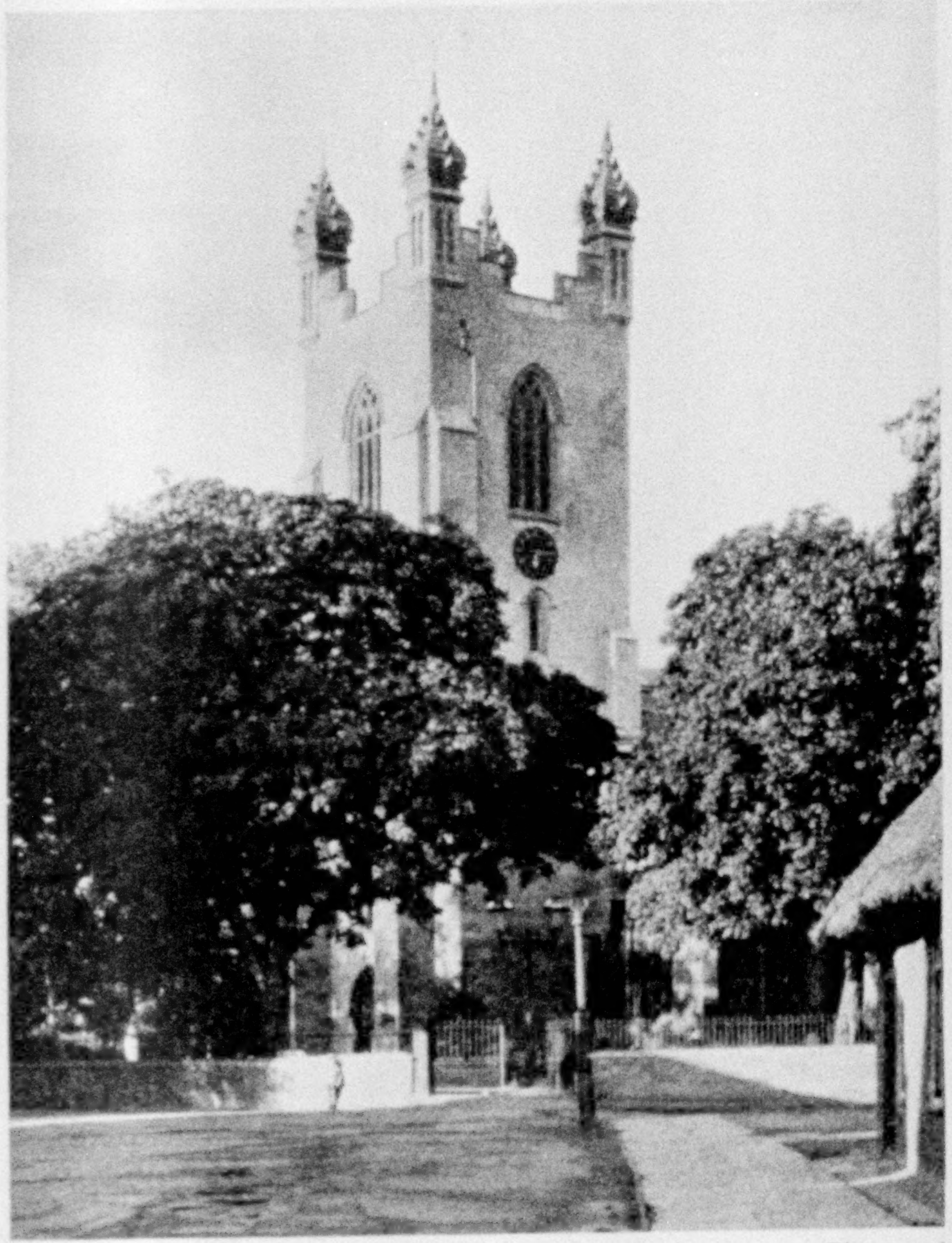
The tablets on the left are at Scrooby Manor, in Nottinghamshire, and tell their own story (see, also, Color Plate XVIII). At the right are old cells in the Guildhall, Boston, wherein were imprisoned some of the members of the Pilgrim Church in 1607. Tradition asserts that a friendly mayor connived to let them escape to Holland.

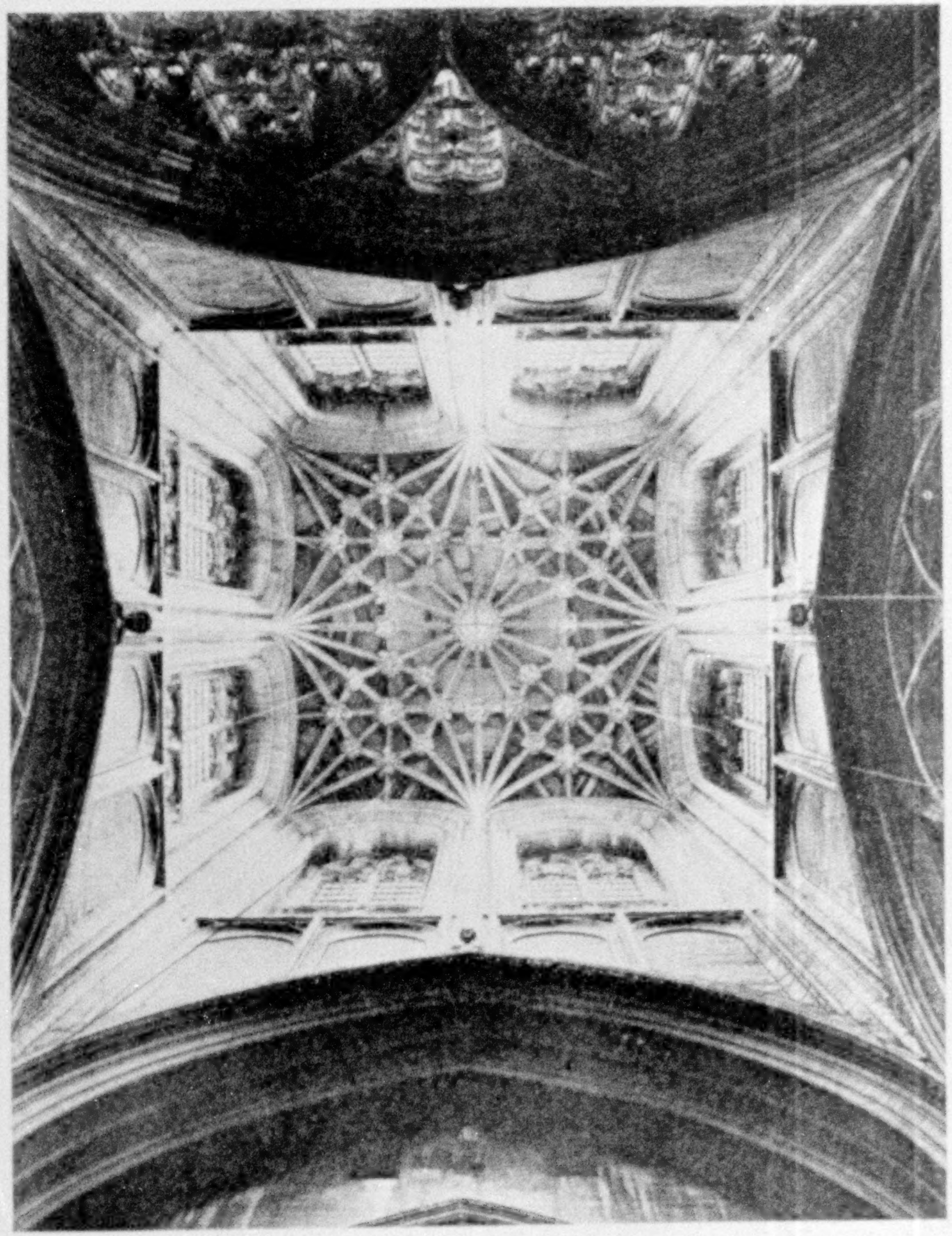


© Donald McLeish

ELY'S SUPERB CATHEDRAL, ONE OF THE NOBLEST ECCLESIASTICAL STRUCTURES OF ENGLAND

This great church, which was begun in 1083 and completed in its original form in little more than a century, occupies the site of a much earlier building, an abbey founded by St. Etheldreda in 673. It is among the most interesting of English cathedrals and contains a wide variety of architectural styles (see, also, text, page 634).





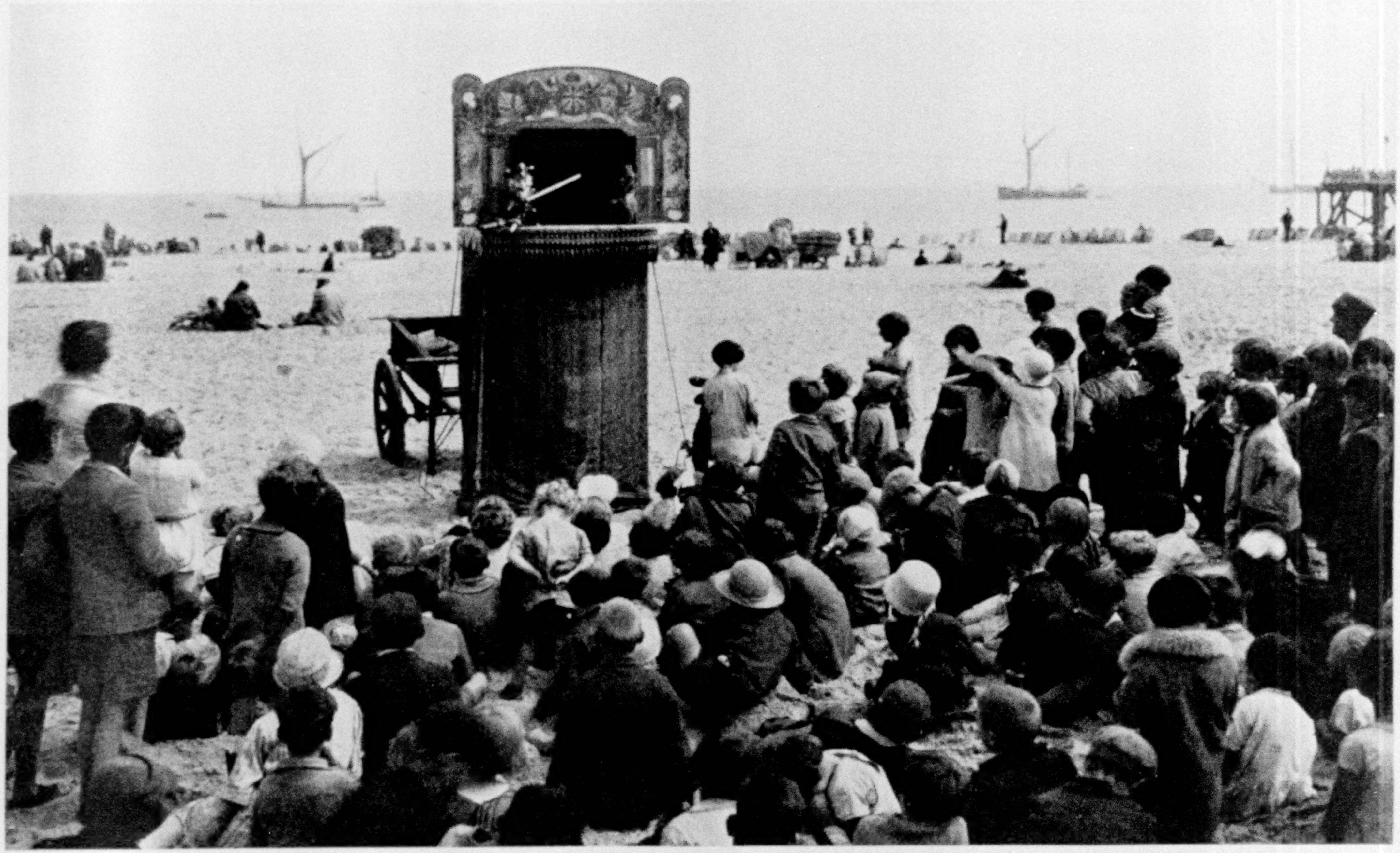
Photographs by Clifton Adams

TURRETS THAT SHADOW THE COOLIDGES' FIRST "HOME TOWN"

Not Northampton, Massachusetts, but Cottenham, Cambridgeshire, has the earliest claim on the family of Calvin Coolidge, for the John Coolidge who settled at Watertown, Massachusetts, in 1630 was born in Cottenham in 1604. The original church tower was destroyed by storm.

LOOKING UP INTO THE FAMOUS BOSTON STUMP

The lofty tower of St. Botolph's Church is a masterpiece of design and construction (see Color Plate XX). The bosses which decorate its splendid groined ceiling are carved with ecclesiastical symbols and the central one weighs six tons (see, also, page 625).



Photograph by Clifton Adams

PUNCH AND JUDY ENTERTAIN YARMOUTH'S YOUNGER GENERATION

The proprietors of this popular puppet show reap a harvest of small coins as the hat is passed among the spectators, for it is an amusement of which both young and old are fond.

LEVERTON OUTGATE
BOSTON 6 A154

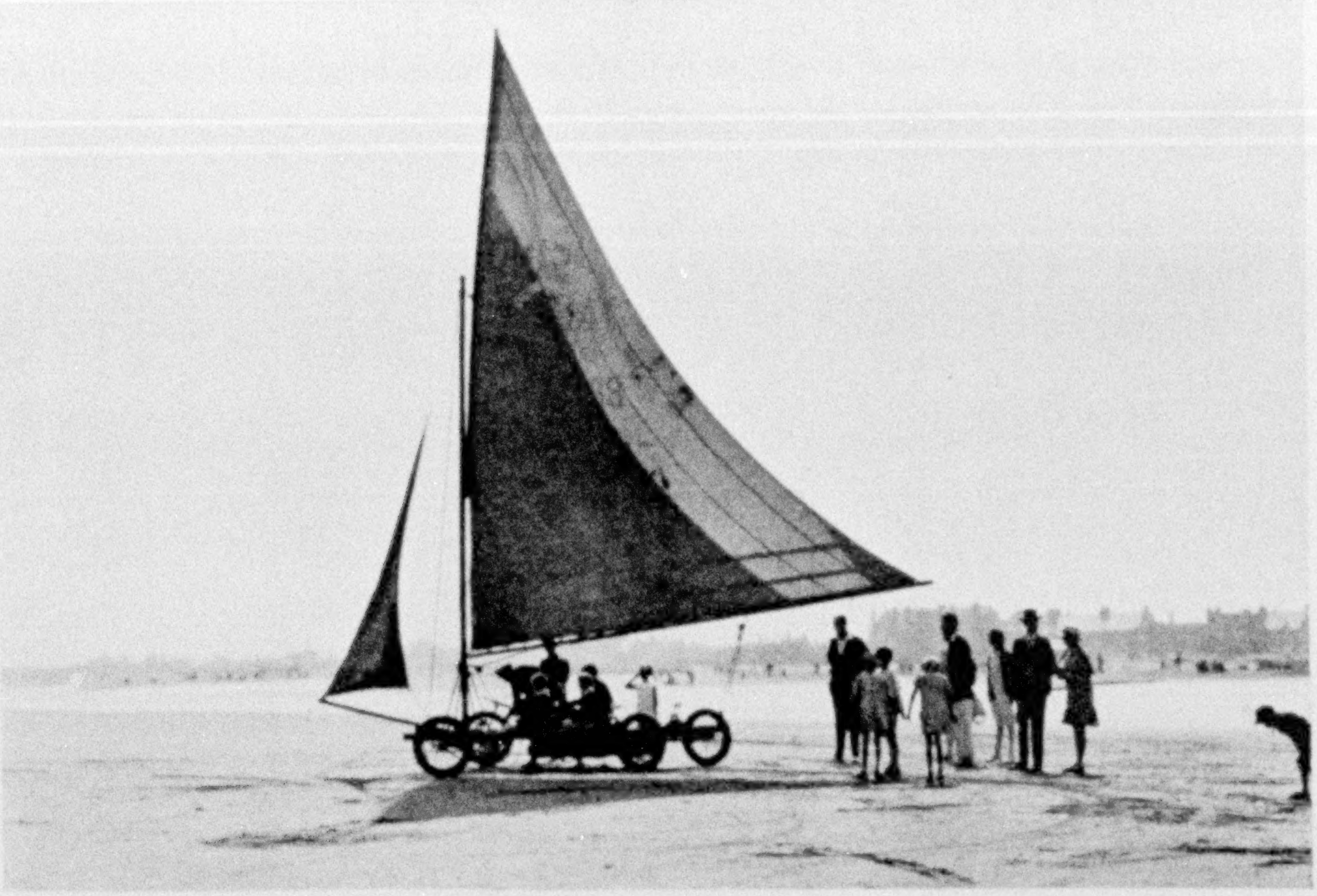
"MAYBE SHE NEEDS PRIMING"

Near Boston, Lincolnshire, boys study the workings of a pump beside a pond at Leverton Outgate. From Boston went many men who, with John Winthrop, founded Boston, Massachusetts.

Photographs by Clifton Adams

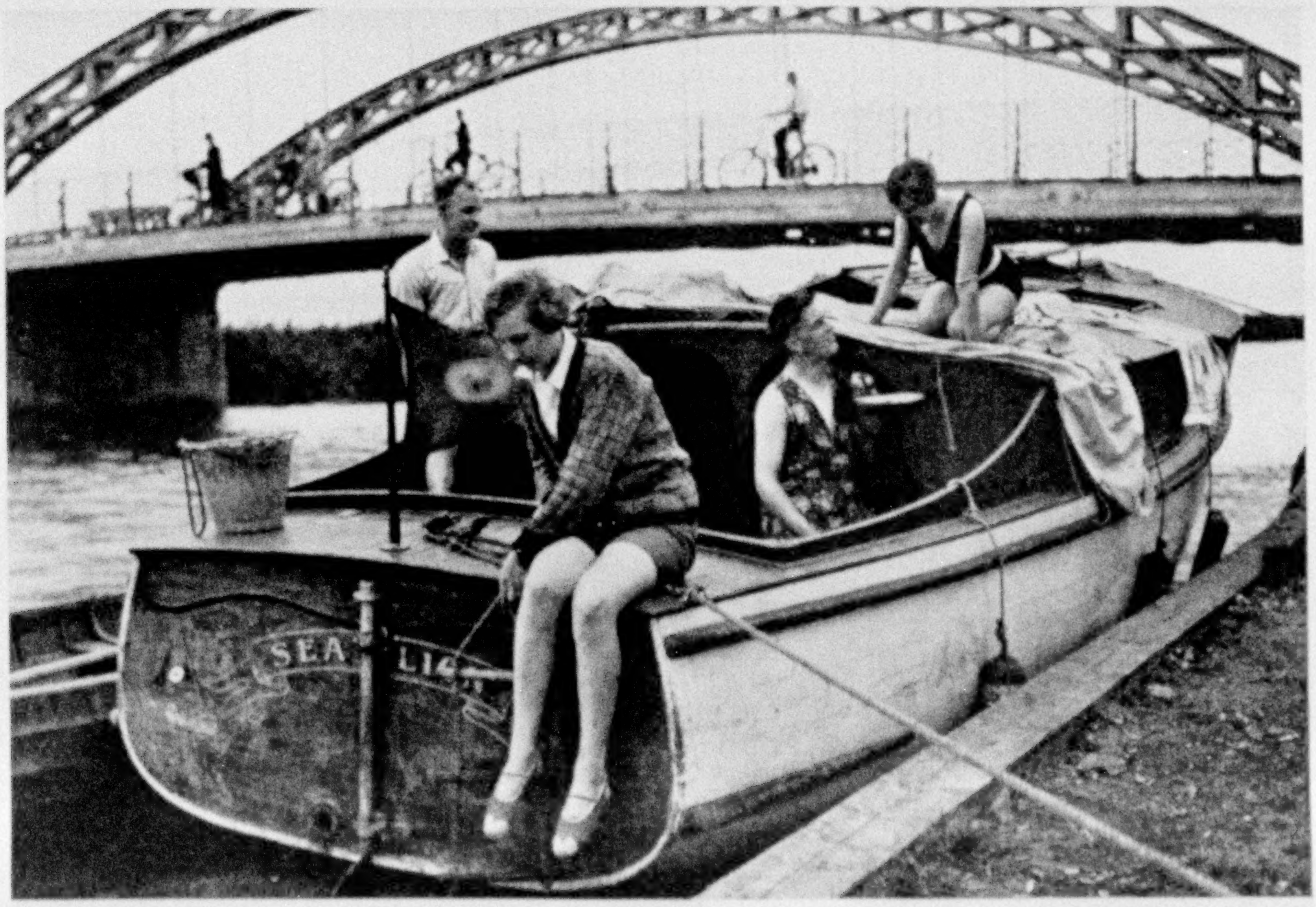
YOUNG LADIES LEND A HELPING HAND IN HARVESTING PLUMS NEAR HADDENHAM

Cambridgeshire, rightly proud of Cambridge University and Ely Cathedral, obviously provides good soil also for Victoria plums. The northern part of the county, known as the Isle of Ely, is in the fenland.



ONE MAY GET A REAL THRILL OUT OF DRY-LAND SAILING

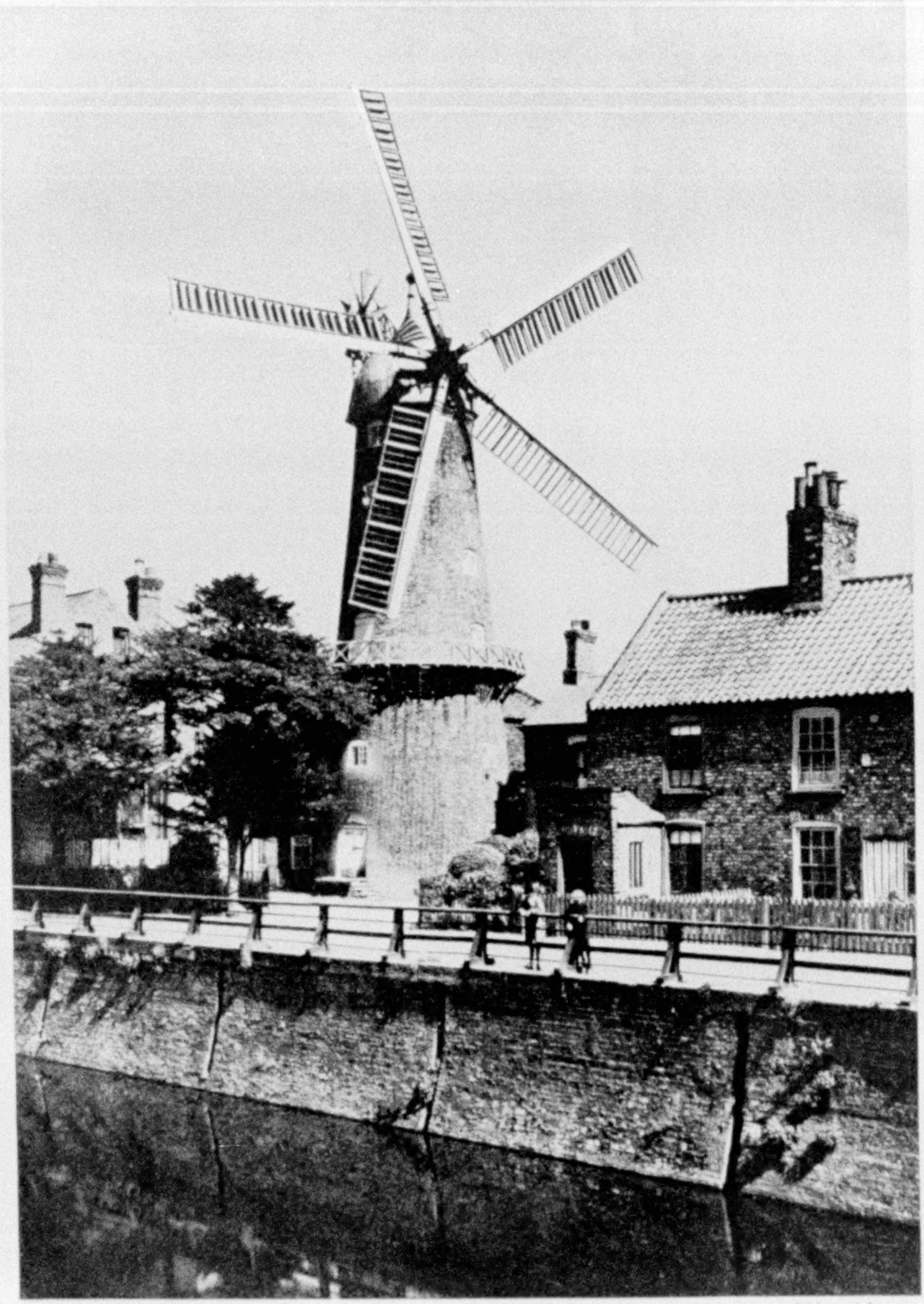
Old sailors, who no longer go down to the sea in ships, man the sand yachts of Skegness. A natural boulevard is made smooth anew at each high tide.



Photographs by Clifton Adams

THE NORFOLK BROADS ARE A MECCA FOR HOLIDAY-MAKERS

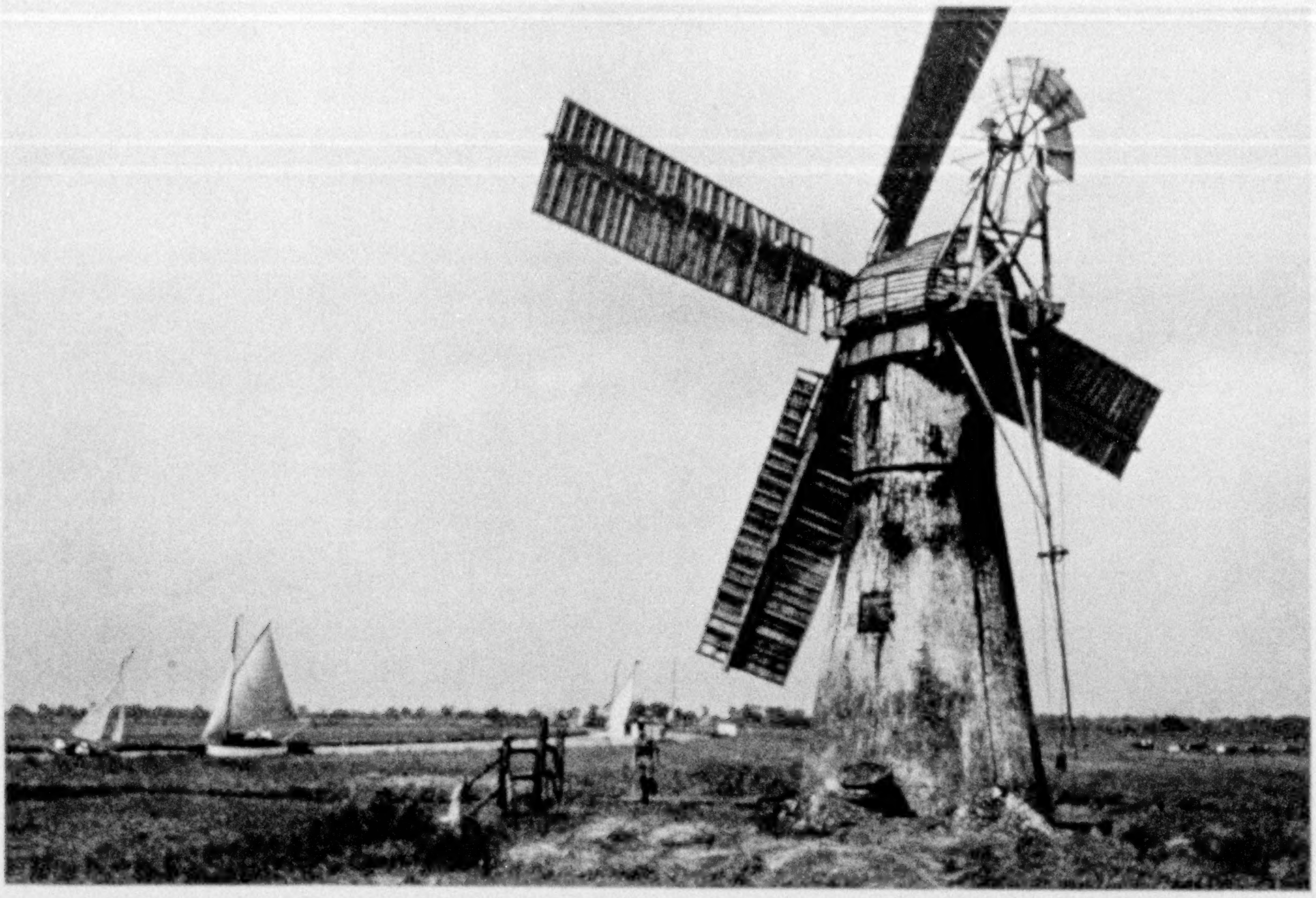
The principal charm of a cruise through this fascinating district, with its 200 miles of navigable streams and its numerous lakes (locally known as broads), rests in the variety of scenery encountered and its unlikeness to that found elsewhere in the British Isles.



Photograph by Clifton Adams

WINDMILLS HELP KEEP THE FENLAND ABOVE WATER

The small fantail wheel serves to revolve the cap on top of the mill, thus keeping the large wheel always turning into the wind. Along the large drainage canal, Boston (see, also, illustration, page 606).



Photograph by Clifton Adams

AN OCCASIONAL WINDMILL RELIEVES THE FLATNESS OF THE MARSHLANDS

The River Bure flows from Acle to the sea, at Yarmouth, between banks of level, far-spreading marshland. Once a year a popular regatta is held near Acle Bridge.

they decided to visit the church where their comrade had been buried. There the boldest of the three proposed disinterring the corpse and playing a game of cards with the dead man as the dummy.

No sooner said than done. The body was lifted out of the coffin and placed against the altar rails, while a couple of candles provided light. Then the cards were cut to see who should play with Dummy, and the three jeered, "Bravo, Dummy! Well played!" Or, "See, friend, the stake's your shroud and my coat."

Suddenly from the vault below came an ear-piercing shriek and the body disappeared. In its place sat a demon with horrible countenance, who threw his arms around the revelers and bade them welcome to hell's feast. In the morning, when the neighbors ventured into the church, they saw the table overset and the cards lying on the floor, while against the rails sat the corpse smiling grimly. To this day the villagers swear that whenever a drunken man passes by, the scene is reënacted, Dummy and his friends standing at the door to beckon him to his doom.

After a pause to admire Walpole St. Peter's, one of the finest examples of Perpendicular architecture in England, I proceeded to King's Lynn. As long ago as 1066, when it had customs dues and salt works, this town was of importance. St. Margaret's Priory was founded in 1091, the present parish church being built on the site of the earlier foundation.

There is also a fine harbor wherein the water rises 22 feet, and where more than 300 vessels can anchor at once, while the Guildhall contains some remarkable curiosities. Here one may see the Red Register of Lynn, one of Great Britain's early paper books; King John's Cup, covered with silver and double gilt and enameled; the state sword and loving cup used at banquets; the old ducking stool, whereon garrulous ladies were taught the error of their ways by immersion in the river; and many other treasures.

A few miles from the town proper are the ruins of Castle Rising, where Isabella of France, the wife of Edward II, passed her last days. Current in the village is a story of the apparition of a white wolf which haunts the castle and brings terror to anyone found there after dark.

At this point it was necessary to leave the seacoast in order to explore the recesses of the Isle of Ely. At first the road followed along the Great Ouse until it branched to the right by way of Upwell and Outwell to March. The latter is a long, straggling town with a famous parish church. The roof of this building is especially interesting. At the ends of its magnificent oaken beams are figures of angels with trumpets and scrolls, carved by the best craftsmen of the 15th century.

A pleasant country road led hence to Ramsey, whose medieval beauty is no more, but whose drainage system has worked untold benefit to the land. Fields of corn and plentiful fruit crops have at last convinced the fenlanders that rich alluvial soil is better than stagnant, disease-breeding marsh.

THE THREE WITCHES OF WARBOYS

Beyond Ramsey is the quaint old hamlet of Warboys, and I recalled a story of witchcraft associated with three women of the village. In 1589 trials for sorcery were common, but none aroused greater interest than that of John Samuel, his wife and daughter, for bewitching a certain Robert Throckmorton and his family.

These people lived next door to each other and apparently were on good terms. But one by one the five Throckmorton children cried out that Alice Samuel, John's wife, had bewitched them. They declared that spirit voices continually worried them, and that until the witch confessed they would never be better.

After some time Mother Samuel was lodged in jail at Huntingdon, while her daughter Agnes was adopted by Mr. Throckmorton for the purpose of ascertaining whether she really was a witch. The children soon fell into worse fits than ever, saying that the girl was responsible. Finally she and her mother and father were brought to trial, when the old woman confessed that she had indeed caused the mischief. She was thereupon sentenced to death and executed, as were also her husband and daughter, the two latter protesting their innocence to the end.

Shortly afterward there was established in Huntingdon an annual sermon on the perils and dangers of witchcraft, preached by a member of Queens' College, Cambridge.

ELY'S PRIDE BORN OF ACCIDENT

From Warboys the route led to Wilburton and Aldreth Causeway, constructed by William I from the mainland to the Isle of Ely. Over the fens I could see clearly the mighty foundation of the cathedral of Ely, which possesses every style of architecture (see, also, illustration, page 627).

One night in the early 14th century a great crash awoke the brethren, who hurried out to behold a woeful sight. The cathedral's central tower had collapsed in ruins! But out of this misfortune came good, for later Alan of Walsingham constructed the great octagonal lantern, today the particular pride of Ely. As one gazes over the fields at sunset to see the tower catch the flashing rays in myriad points of light; as one marks the outlines of the enormous walls and battlements and notes the peculiar length of the nave, one cannot help feeling that awe which antiquity brings to every lover of art.

Following a road which wound in and out among reclaimed fields, I saw at length a genuine piece of fen. In the village of Wicken is preserved a square mile of absolutely undrained marsh, where one can see plants and flowers and swallow-tailed butterflies which formerly were everywhere in this district. It is fascinating to imagine the whole land covered with similar vegetation, herons and water snakes inhabiting the reeds, and boats conveying travelers from one point to another, very much as in a tropical forest in South America (see page 615).

A tour in the English fenland had proved a unique experience.

THE EAGLE IN ACTION

An Intimate Study of the Eyrie Life of America's National Bird

By Francis H. Herrick, Sc. D

Professor Emeritus of Biology in Adelbert College, Western Reserve University

THE choice of a national emblem could hardly have been more deliberate than in the case of the American eagle, for from the day the Declaration of Independence was signed six committees had wrestled with the question for as many years, until a device satisfactory to the Congress was finally adopted on June 20, 1782.

As it happened, the choice had fallen to a true native of America, the white-headed or "bald eagle,"* which ranges over nearly the whole of the North American Continent. From that day the effigy of the American eagle, "displayed," or with wings and feet extended, became the official badge of sovereignty of the United States, and it was immediately cut in brass, to be used as a seal and for a national coat of arms.

The golden eagle, the only other member of the family known to enter our borders, is a more cosmopolitan species, reaching in its wanderings nearly every part of the Northern Hemisphere.

THE EMBODIMENT OF FREEDOM AND POWER

It is in action that the eagle appears at his best, for he is then a true "king of birds"; and, whether we have seen him soaring and circling far above the confines of the earth or plunging like a meteor from the sky; whether screaming defiance at the storm or fiercely striking his prey, we know why to men of every age he has seemed the very embodiment of freedom and power; why his effigy has been emblazoned on the chariots of warriors and on the shields of knights, or, raised aloft on poles and banners, has followed the legions into battle from the days of Marius to those of Napoleon and the leaders of the latest war.

The history of the eagle in mythology and religious symbolism, in the decorative arts, and in heraldry of both the middle and modern age, as emblem of victory and also of double empire when it acquires a double head, is extraordinary testimony to this well-nigh universal appeal.

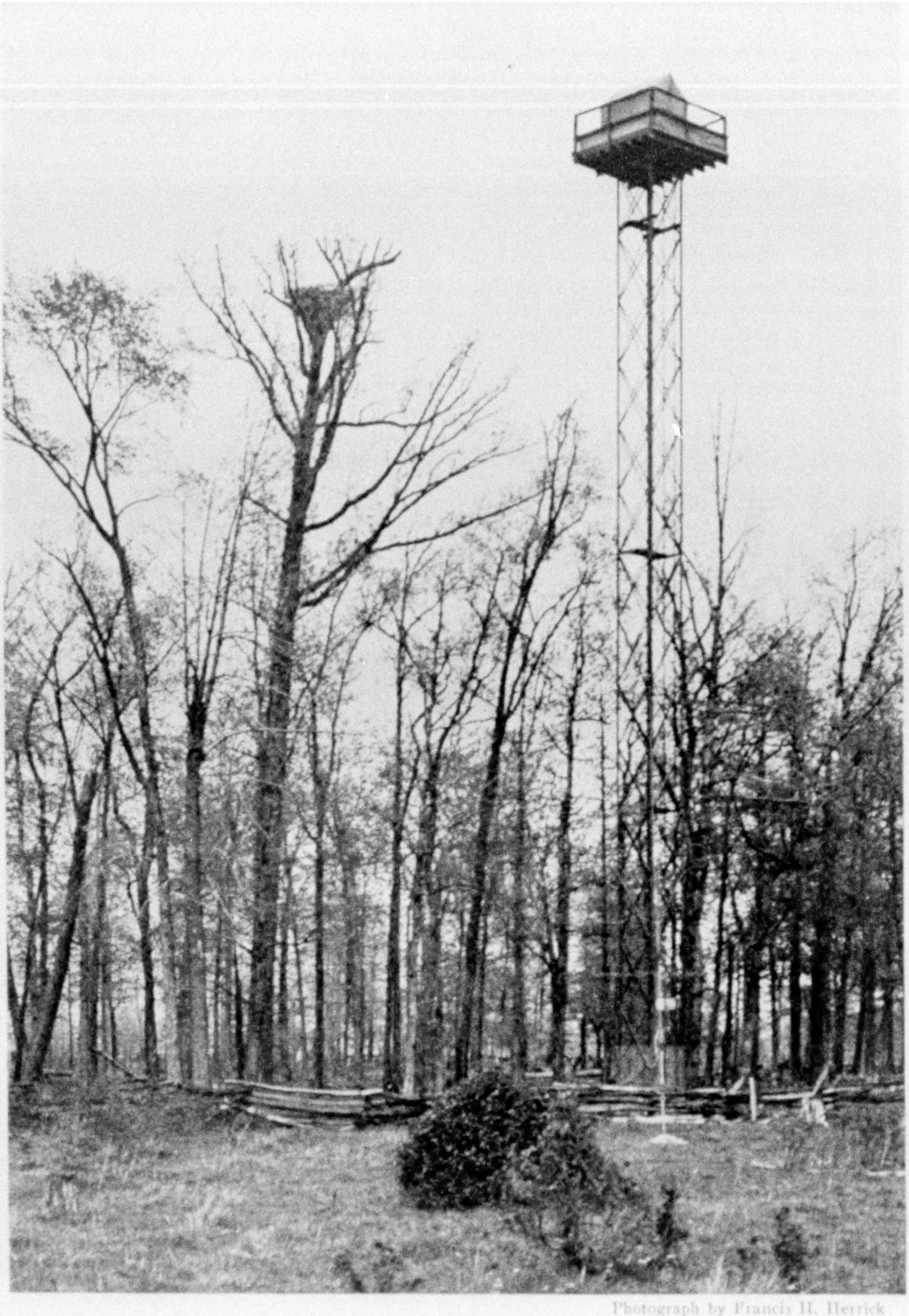
THE EAGLE IS AKIN TO THE FALCON

But if we glance at the other side of the shield we shall find another story. In its structure and habits, the eagle is a large hawk, of close kin to the falcons, buzzards, and harriers of every clime, but the biggest, boldest, and most powerful raptor of them all. The female, which in the American eagle is the larger sex, may attain a length of 43 inches, may spread 8 feet, and, according to Audubon, may weigh from 8 to 12 pounds, though these last figures may be greatly exceeded in captive birds. It is a stranger to fatigue, can probably lift its own weight, and has been known to carry a lamb over a distance of five miles.

Our eagle is content to subsist upon fish whenever there is an ample supply, but is too partial to waterfowl to become a favorite with sportsmen, though it never kills for sport, and is too fond of chicken dinners, mutton chops, and suckling pig ever to become popular in rural communities.

Now it has been accused, though with scant show of justice, of destroying salmon and young reindeer in Alaska, where the territorial legislature has set a price upon its hoary head. For ten years or more a ruthless war has been waged against our national bird in that territory, until more eagles have been destroyed—some estimates running as high as forty or fifty thousand—than were thought to exist on the whole continent.

* The term "bald," as a correspondent has recently suggested, is probably a corruption of "piebald," as in the phrase "a bald horse," and refers to the bird's sharp-cut pattern of white head and neck, brown body, and white tail.



Photograph by Francis H. Herrick

AN OBSERVATION POST FOR STUDYING EAGLES AT HOME

The 80-foot steel tower was erected by Western Reserve University beside the eyrie of an American eagle at Vermilion, Ohio, in February, 1926. The platform was nine feet square and carried a specially designed tent that brought the observer's eye within 40 feet of the nest. The tree crashed in a storm May 18, 1926, and the young were killed by the fall (see text, pages 652 and 654, and illustrations, pages 641 and 642).

It is safe to say that forty thousand eagles could not appreciably affect the supply of Alaskan salmon in forty thousand years. But man, with his wasteful methods, intent only on present gains, must find a culprit and the eagle was a convenient victim.

FRANKLIN OPPOSED THE EAGLE AS AN EMBLEM

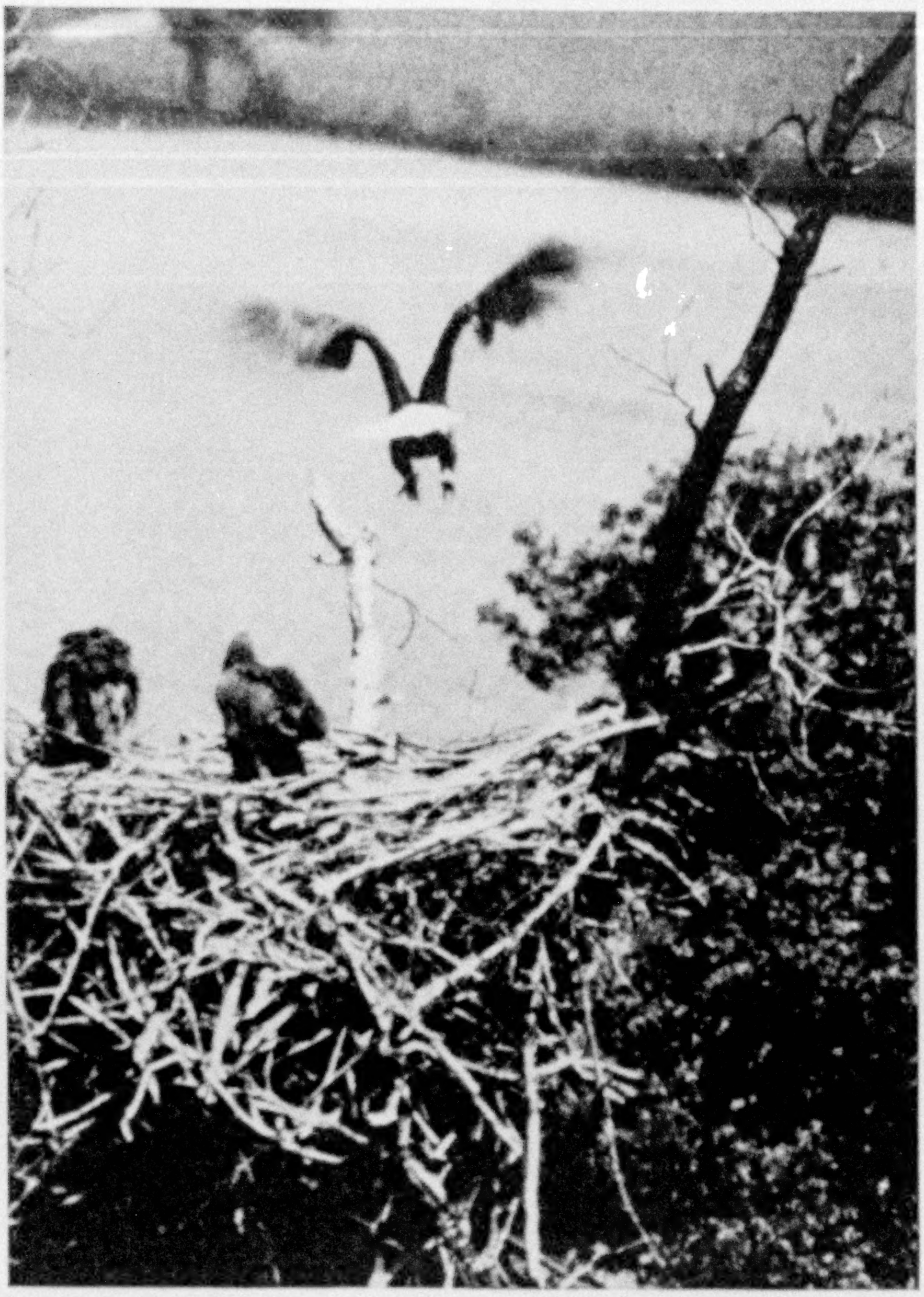
But this is not all; for, aside from the eagle's occasional raids upon the farmer's stock and poultry, which in most parts of the country are far from habitual or serious, our bird's moral character has been assailed. His reputed turpitude was early expressed by Benjamin Franklin in a letter written in France on January 26, 1784, and has been quoted with approval since.

At that time the Order of Cincinnatus, which had been recently created in America and had adopted the "bald eagle" as its emblem, was a fair target for critics on both sides of the water. Franklin thought that a bird which was too lazy to fish for himself, but robbed the honest fish hawk on every occasion, and was so rank a coward as to permit the little kingbird to "drive him out of the district," was "by no means a proper emblem for the brave and honest Cincinnati of America," who by their prowess had "driven all the *kingbirds* from our country."

Franklin had been a member of the first committee designated by Congress to prepare a suitable device for the United States, and as his design was rejected it would not have been surprising had he felt a little resentment at the substitution to be made later.

The eagle, like the fish hawk, must follow the instincts with which Nature has endowed it, but that upon occasion it is a carrion-feeder, like most of its kind, is probably to be set down to its credit.

Perhaps it is not too late to point out that the eagle is never "driven out of the district" by the kingbird or by any other living being except a man armed with a gun. It is true that he is constantly an-



Photograph by Francis H. Herrick

TAKING OFF

When leaving its eyrie the eagle often cuts a curious figure if seen directly from behind, and especially at the moment the wings are upraised. The motion of the vibrating tips was not stopped in this instance with an exposure of 1/235th of a second (see page 649).

noyed by the little tyrants whenever he crosses their nesting preserves, but he is too indifferent or too much bored by such attacks to do more than deflect his course.

Such liberties are also taken by other birds, as I once noticed at Vermilion, Ohio, when a small hawk tried these tactics upon one of the great birds that was leaving the eyrie. After dodging its thrusts for a time, the eagle suddenly lost patience, and, like a flash, he turned upon his pursuer, opening his talons and striking at the same instant. This gesture was enough; there was no pursuit, and the little hawk, which seemed to have escaped by a hair's breadth, had probably learned its lesson.

The truth is that the eagle may be bold or timid, as suits not so much the occasion as its own bodily state, and on this score it is upon the same footing as other birds and the higher animals generally; for it is only the alert, the intelligent, or the adaptable that can survive in the presence of man. Behavior with them all is a question of instinct plus experience and adaptability, and their expression of fear is subject to constant and often great variability.

The trouble with those writers who have complained of the timidity of our national bird lies in attributing to the species, which of course must include every individual of the kind in question, what they have observed in but few individuals, or perhaps in only one and under one set of conditions. They forget that behavior in a given case may vary not alone with that individual's inheritance and age, but, most of all, if it be intelligent, with habit in the sense of profiting by experience.

OUR NATIONAL BIRD IS NO COWARD

All eagles, like many of the hawks, when wounded or hard pressed, will fight like demons; and we might expect them to fight to protect their young; but while some will do this, others will not. It all depends upon the acquired or momentary balance between caution and fear, as dictated by experience, or upon the resultant of their inherited and acquired powers.

The eagle offers a large target, whether upon its eyrie or in the air, and in settled communities, where its wits must be constantly pitted against those of man, circumspection becomes the rule of life and caution the price of liberty.

Trusting its young to the inaccessibility of their nest, it usually keeps at a safe distance whenever this is approached, for it has learned its lessons from bitter experience; but, should the eagle's eyrie be placed low or in more remote and wilder regions, the marauder will do well to watch his steps or he may meet with the surprise of his life; for, like the she bear, the eagle can and often will defend its young, and in attack it is a swift and formidable adversary.

Fear is an instinct which Nature has bestowed rather freely for the protection of the individual and the preservation of the race, but it has to struggle with other instincts, and the timorous may suddenly become bold under the spur of a stronger impulse. Even the timid hare has been known to rise to the occasion and boldly defend its young.

THE MONARCH OF THE AIR DEFENDS HIS HOME

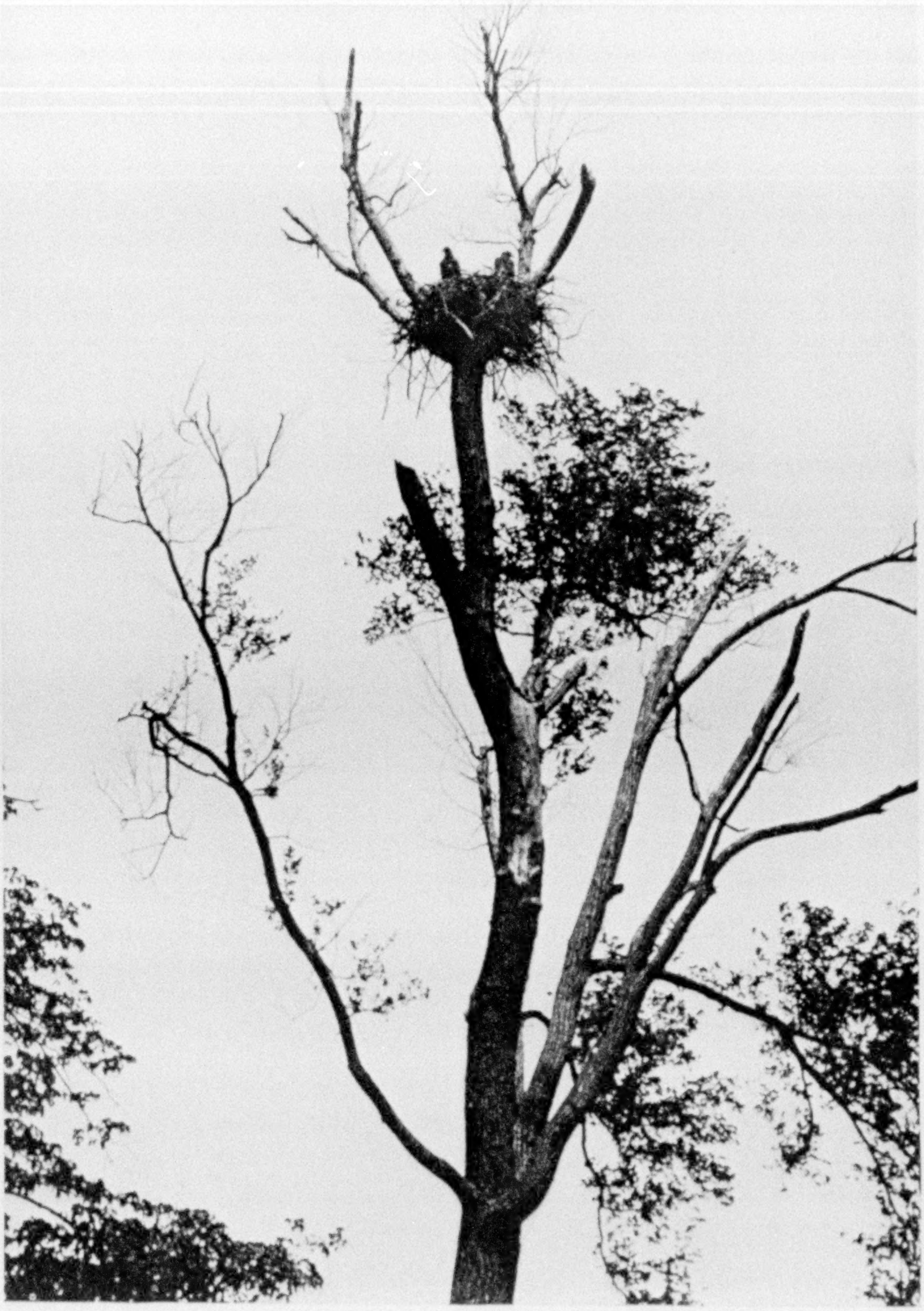
That the American eagle will sometimes put up a stiff fight in the defense of its nest, or when hard pressed on the ground, we have ample evidence. Capt. B. F. Goss thus wrote to Captain Bendire of his experience at a nest built on a small island in the vicinity of Corpus Christi, Texas:

"Both parent birds attacked us with great fury, screaming and striking at us with their talons. While examining the nest, they came within a few feet of me and I was glad to retire."

The late Hon. John G. White, of Cleveland, has given me the following account of what happened on two occasions at Jackson Hole when an eagle was caught in a trap set for bear:

"We would have released him," wrote the judge, "but the trap had scraped his leg and he would not allow us near. When we came up to the stockade he was lying down. As soon as he saw us he reared himself up on his sound leg, favoring the trapped one as much as he could, and, with head drawn back and feathers erected, defied us and struck at us fiercely when we attempted to approach. As there was no way to release him, we had to kill him."

Like the giant of old, when beaten to the earth, he promptly arose with fighting



Photograph by Francis H. Herrick

SITTING ON TOP OF THE WORLD

Eighty feet above the ground, in the dead top of an ancient elm near Geneva, Ohio, these two eaglets have passed their "childhood" and are about ready to take their first trial flight. The picture was made from the ground on July 1.

powers renewed, for "in an instant he was on his feet again, as indomitable as ever, and this continued after every blow, until at length he was killed. To the end he was fiercely defiant. . . . Such a picture as he made of indomitable courage, persistent to the last, I never saw."

Most would agree with the judge, that it would be hard to find a better emblem for a free and courageous nation than this indomitable bird.

EAGLETS SPEND TEN WEEKS IN NEST

The eagle is the greatest home-keeper of his class. His eyrie is his castle, which, as we have seen, he will at times defend against all comers. In it his eaglets spend the first ten weeks of their life—from mid-April until early July, upon the southern shore of Lake Erie—and it is the occasional rendezvous, lookout point, and dining table for the elder pair for the remainder of the year.

With us the eagle is nonmigratory, or a very irregular migrant, never leaving his home neighborhood for long and only when his food supplies run out. In northern Ohio he nests high, choosing the crotch of a commanding tree not far from the lake which supplies him with fish and to which he makes constant sallies, varied with occasional forays into the adjoining fields.

The first year's nest is framed with sticks, usually from two to six feet long and from one to two inches thick, and well bedded with straw, cornstalks, and stubble, the whole measuring about five feet each way. In it are laid two or, more rarely, three dull white eggs, resembling somewhat those of the domestic goose, and, it is believed, at intervals of several days, beginning in this latitude in mid or late March.

YOUNG EAGLES PASS MUCH TIME PREENING

In from four to five weeks the young are hatched in white down, which contrasts sharply with their dark eyes and their almost black, hooked bills. This natal covering is shortly replaced with a thick coat of close gray down, to be in turn gradually combed off, until they have acquired their full juvenal dress of dark-brown feathers by the end of May or the beginning of June.

Early in the latter month the eaglets are becoming sleeker every day through their incessant attentions to their toilet, and with their brown dappled dress and clean yellow legs make a fine appearance. Already they are nearly as large as their parents and have a wing-spread of more than six feet; yet from two to three weeks of voracious feeding and ardent exercise are still required before they will have gained sufficient courage and the proper coördination of muscles and nerves to leave the eyrie under their own power.

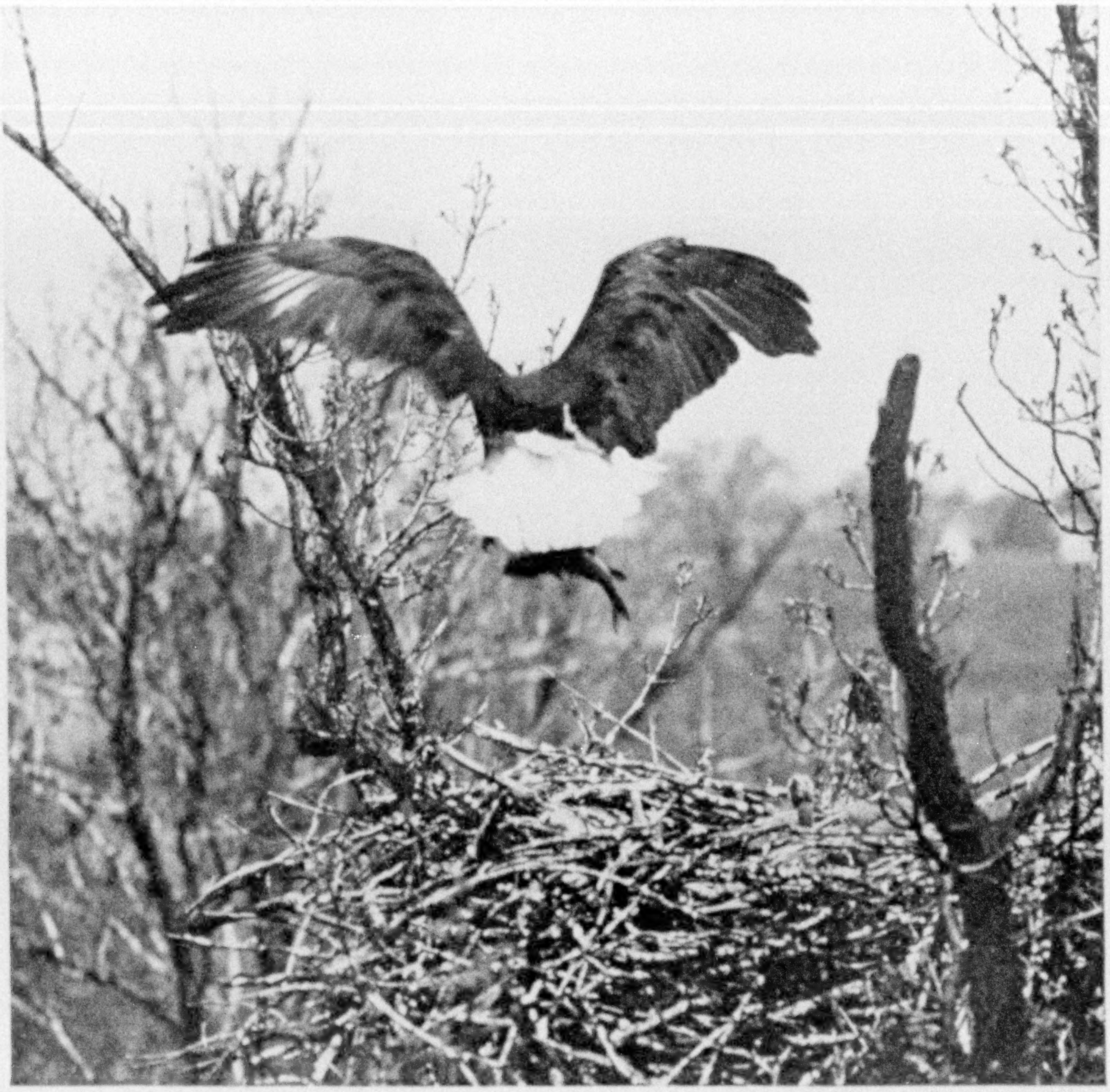
After freedom has been attained, a few more weeks are spent in company with their parents, who still continue to bring them food, and with them they make frequent visits to their old home; but the day eventually arrives when parental guidance and protection cease and the young go forth to seek, far from their native heath, their substance and their fortune, and in due course to found a home of their own.

The young bald eagle, in its dark-brown dress, has often been mistaken for the golden eagle, which it resembles in color and size, but the one unerring mark of distinction is the shank, which in our national bird is nearly bare, but in the golden eagle is feathered to the toes. It is not until the third year, or after, that the full adult marks—white head, neck, and tail and yellow iris and bill—are fully attained.

A REMARKABLE EYRIE USED FOR 35 YEARS

In our great Federal banks and other buildings of the Government the eagle is appropriately given a prominent place in the decorations, but it is not always the American bird, as the artist is too often inclined to cover the plain "boots" of his subject with feather leggings, which it never wears.

When each successive nesting season comes round, the mated pair, if satisfied with the location, resort to their old eyrie and build upon its top what is virtually a new nest or set in place a new layer of sticks and stubble; so that in the course of time the eagles' eyrie grows in height and breadth in accordance with the spread of its main supports. Nests which have been occupied for a number of years have been abandoned and again reclaimed, whether by the same pair or not it would



Photograph by Francis H. Herrick

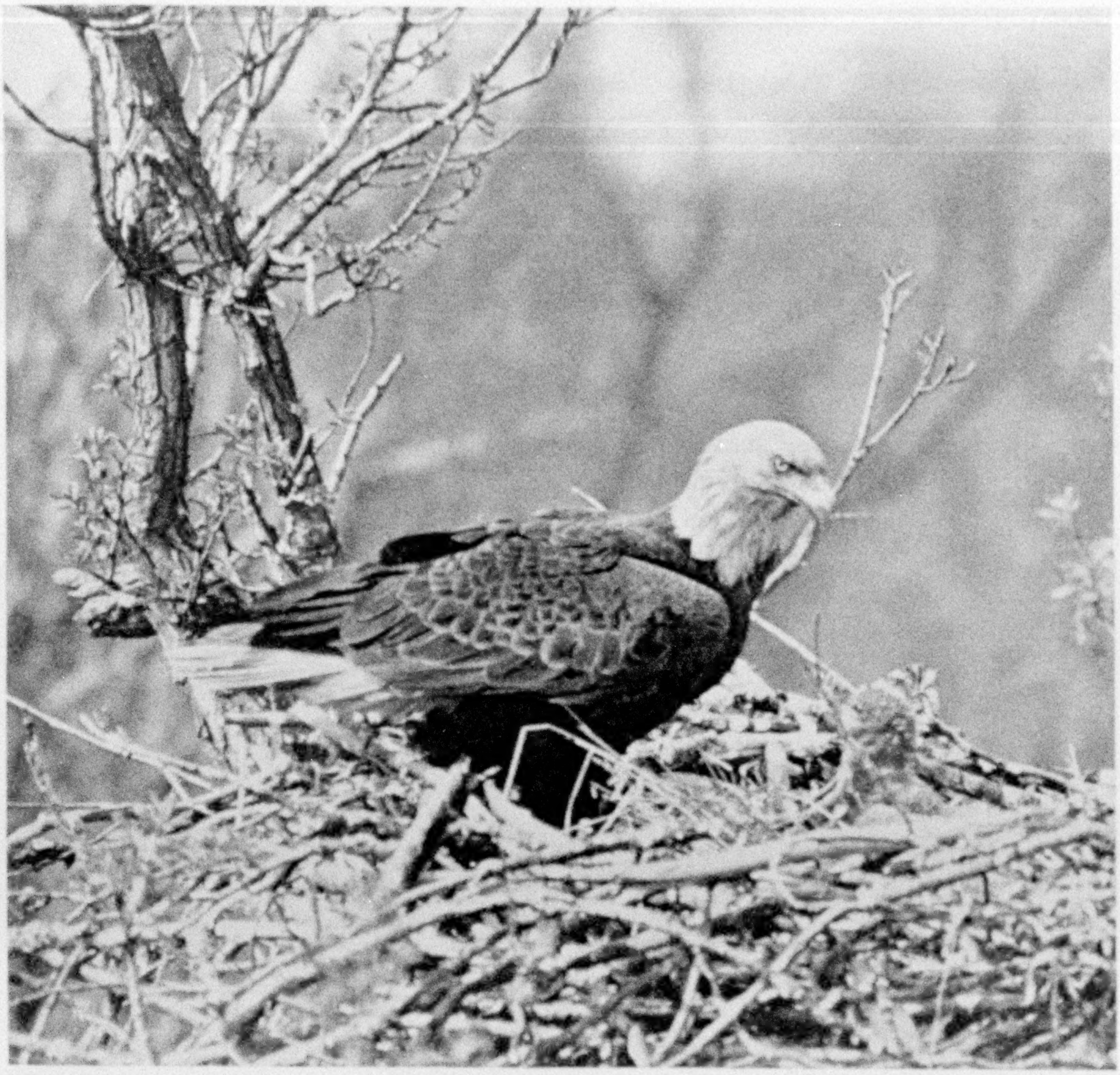
MOTHER BRINGS HOME THE EVENING MEAL (SEE PAGE 636)

be impossible to say; but, if the attachment holds, the time must come when the eagles' tree, weighted by an ever-increasing mass of vegetable decay, breaks under the strain and goes down in the storm.

What was probably one of the most remarkable eyries of the American eagle in the entire country stood, until the fatal ides of March, 1925, in the dead top of a shellbark hickory, in the town of Vermilion, Ohio, at a point 38 miles due west from Cleveland and a mile from the shore of Lake Erie. These Vermilion eagles had grown up with the country, and have a history which can be traced back for more than eighty years, during which time six nests are known to have been occupied in that immediate neighborhood, the fourth and greatest having been begun not later than 1890.

Since the eagle is mated for life and if bereft always finds a new mate, the same pair or their successors in this partnership are known to have occupied the same nest without a break for 35 years—a record possibly unmatched in the annals of natural history. This great nest, in the form of a solid inverted cone, when measured in July, 1922, was 12 feet high and 8½ feet across its flattened top; it stood 81 feet from the ground, and, according to the estimates of a number of experienced observers, made after its fall, its weight was not far from two tons (see illustrations, pages 646 to 650).

This historic eyrie at Vermilion offered



Photograph by Francis H. Herrick

"HAVE YOU BEEN GOOD WHILE I WAS AWAY?"

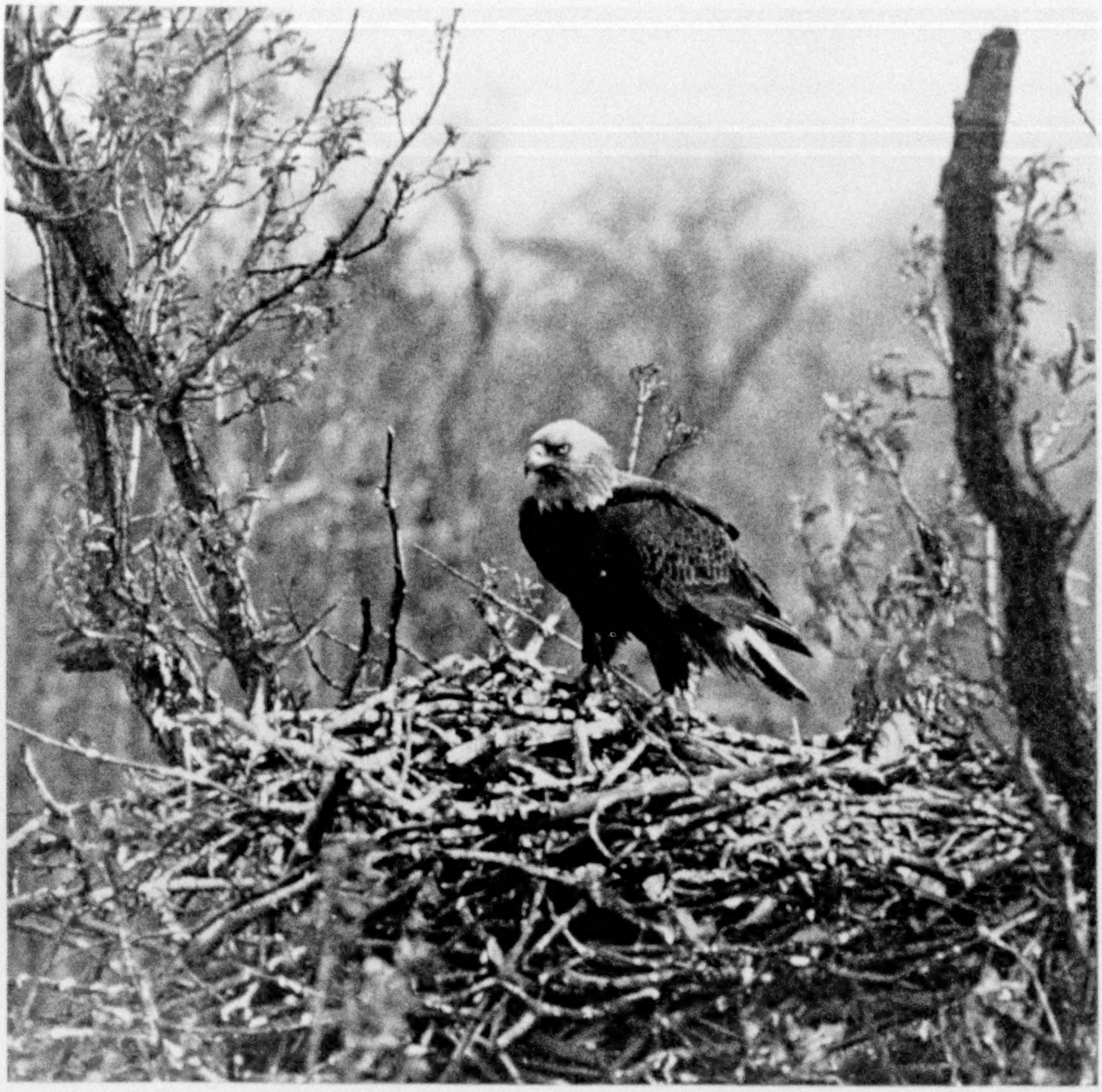
The female eagle pauses a moment after dropping a fish before she begins to rip it up and feed her eaglets. It is a long time before the young birds learn to help themselves at the family larder, and the habit of getting their food from the bill of the parent becomes so strong that it persists to the very end of nest life. Photographed from tower shown on page 636.

such an unusual opportunity for an intimate study of the domestic life of the eagle that we decided to approach it by means of a specially constructed observatory. Making use of a large elm, which rose to a height of one hundred feet on the southerly side of the eagles' tree and had a girth of twelve feet not far from the ground, as a central pillar of support, work of construction was begun in the winter of 1922 under the auspices of Western Reserve University.

To the first platform, which was occupied for a month during that year, was added a second in the spring of 1923, this bringing the observer's eye one hundred feet from the ground and enabling him to overlook the nest as well as the entire region for miles in every direction. The platforms were ten feet square and were reached by means of a steel ladder. When in use the upper platform was capped by a khaki-colored tent of generous proportions and protected by a rail screened with the same material.

OUR OBSERVATIONS CAUSE LITTLE ALARM

Having found that the eagle's day, at least during the late phase of nest life, began at dawn and ended at dusk, the observers divided theirs into shifts of three



Photograph by Francis H. Herrick

THE MASTER OF THE EYRIE LOOKS THE FALCON THAT HE IS

Arriving at home a few minutes after the mother bird (see illustration on opposite page), the male parent assumes his share of the responsibility for feeding the eaglets.

hours each, beginning at 5 o'clock in the morning and ending at 7 at night.

For many days we had the old eagles before our eyes for hours at a time; and we saw their young advance, through their long term of infancy, from strength to strength, until, prepared by their later persistent exercises and their play, with instincts sharpened and habits formed, they were ready for independent flight.

As we approached the grove in going our usual rounds, the old birds, if stationed on one of their customary perches, were likely to leave in silence and take a stand farther away. Never did we hear, at such intrusions, their protesting scream and but rarely the loud *kak-kak-kak!* alarm of the male.

At the late stage we would often see the young standing close together upon the eyrie, as motionless as statuettes and visible for half a mile; but if they were engaged in feeding or lying down, the great nest would appear to be empty. When an old eagle, at an earlier stage in nest life, was engaged in brooding, again all was quiet, but the ever-watchful male was certain to have observed us, and, as he circled above the grove, a white head rose from the center of the nest, like a jack-in-the-box, and we could see that head extended in our direction, with the

Photograph by Francis H. Herrick

A YEAR-OLD EAGLE ON GUARD

With head thrown back and feathers erect, it is ready to strike.

mandibles opening and closing in protest. In a moment the female eagle was in the air and moved away in silence to join her mate.

WE COMMAND A RARE VIEW OF THE EYRIE

Better to study the eagles in action, we will ascend to the observatory, assured that from the concealment of our tent, with which they have become familiar, we can watch at leisure the unfolding scenes of the aquiline drama. By the aid of a wooden ladder we ascend to one of steel, beginning at a point seventeen feet up.

Carefully watching our steps, we rise vertically twenty feet, cross on a diagonal through a network of studs and joists, amid the great spreading branches of the tree, to the northeast side. Ascending vertically again and heeding only the business in hand, we pass through two traps, and, careful to close the last, finally stand on the upper platform and gaze for a moment upon the remarkable scene spread out to our view.

The dominating object is the great eyrie itself, with its feathered occupants, which fixes our gaze, fascinates us, as we see it for the first time, not raised against the sky, but projected upon the brown tapestry of the fields below. We look directly down upon its top, as upon the stage of a theater, and the eye wanders quickly to the scenes beyond, from the tree tops of the grove to the well-ordered fields of growing corn and waving grain; thence to the shore, a mile away, and the blue waters of Lake Erie, blended with the sky at the horizon and stretching from the Point and city of Lorain on the east to near the town of Vermilion on the west (see pages 647 to 653).

The whole countryside is intersected with railroads and highways of pleasure or commerce, where at times the eagle's scream is strangely mingled with the voice of the steam siren, the locomotive's whistle, or the hum of a passing airplane.

We will now enter the tent, knowing that once under its cover, provided that no suspicious objects are moving on the ground below, the confidence of the eagles will be restored and we shall soon have action in plenty. The sides of the tent are pierced with V-shaped peekholes, and the front with larger "windows" for the cameras.

A few minutes only are required to set in place the camera, which is provided with a telephoto lens of good depth and speed; then, with an eye at a peekhole and with notebook and binoculars at hand, we are ready for eventualities.

THE BABIES ARE WELL CARED FOR

The time is April 23, 5:45 p. m. The female eagle has been brooding her callow young, which are now in white down and about two weeks old. She deliberately rises, walks over to the carcass of a large fish, stands on it and begins tearing off small pieces of the flesh and passing them to the three eaglets, which line up before her.

Twenty minutes later the male drops on the eyrie and immediately joins his mate in the work of satisfying the appetites of their hungry brood. The old eagles bend to their task and pass up bits of food at the rate of about five to the minute. At least the passes are at this rate, but the proffered food is not always taken. It may indeed go the rounds, to be eaten finally by one of the old birds.

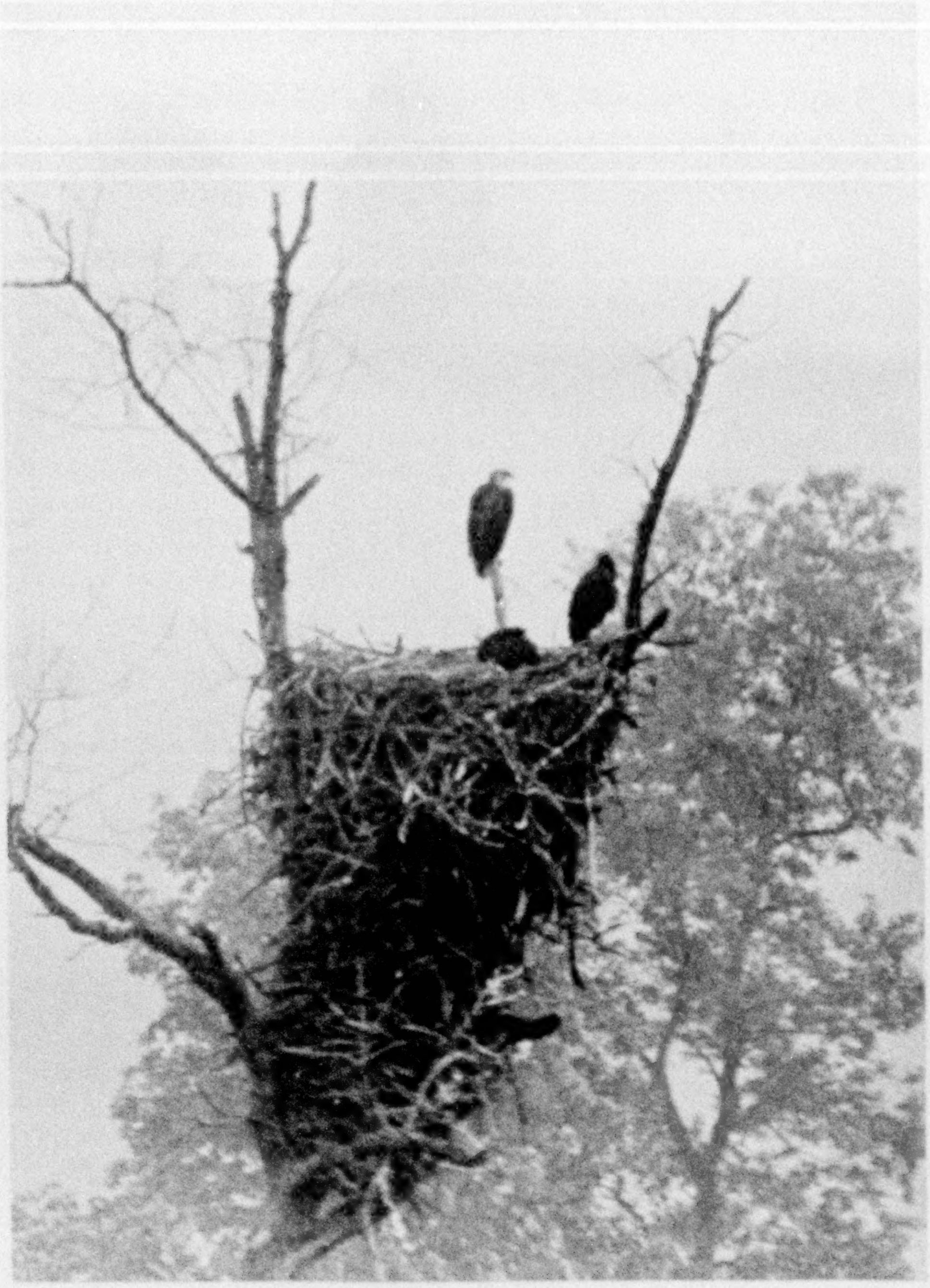
The feeding over, the female eagle digs a depression in the floor of the eyrie with her bill and prepares to brood, while the male takes his stand for guard duty on one of their habitual perches. When her eaglets have crawled beneath her breast and wings, she carefully draws the earth and stubble about her body and, after shaking out any troublesome particles that may have lodged in her mouth, settles snugly over her brood.

For later pictures of eyrie life we shall pass to mid-June (see pages 650-5), when the eaglets have acquired their brown juvenal plumage and are scarcely inferior in size to their parents. At 8 o'clock there is a fresh breeze from the lake and the great top of the eyrie is gilded by the sun. Earlier in the day a pike and catfish were brought in from the shore, and at another visit a bunch of green oak leaves. We can see those leaves on the nest now, and

Photograph by C. M. Shipman

AN ALERT TWO-YEAR-OLD

This immature bird had been injured in the left wing. Although he could not fly, he was extremely active. He would take fish from his captor's hand and repeatedly untied the knots of his tether and escaped to the woods. He could be safely handled only after his head was covered.



Photograph by Francis H. Herrick

READY FOR THE CARES OF A NEW DAY

The eyrie is most beautiful in the morning mists, when seen against a background of trees and fields. The female eagle occupies the nest perch.

the eaglets occasionally peck at them as in play.

We have not long to wait until an old eagle reconnoiters the eyrie, flying with leisurely strokes, her white headdress and tail showing in strong contrast with her trim brown body. She flies to the north, encircles our observatory, and in a moment has taken the "forked perch" on the east side (see page 653).

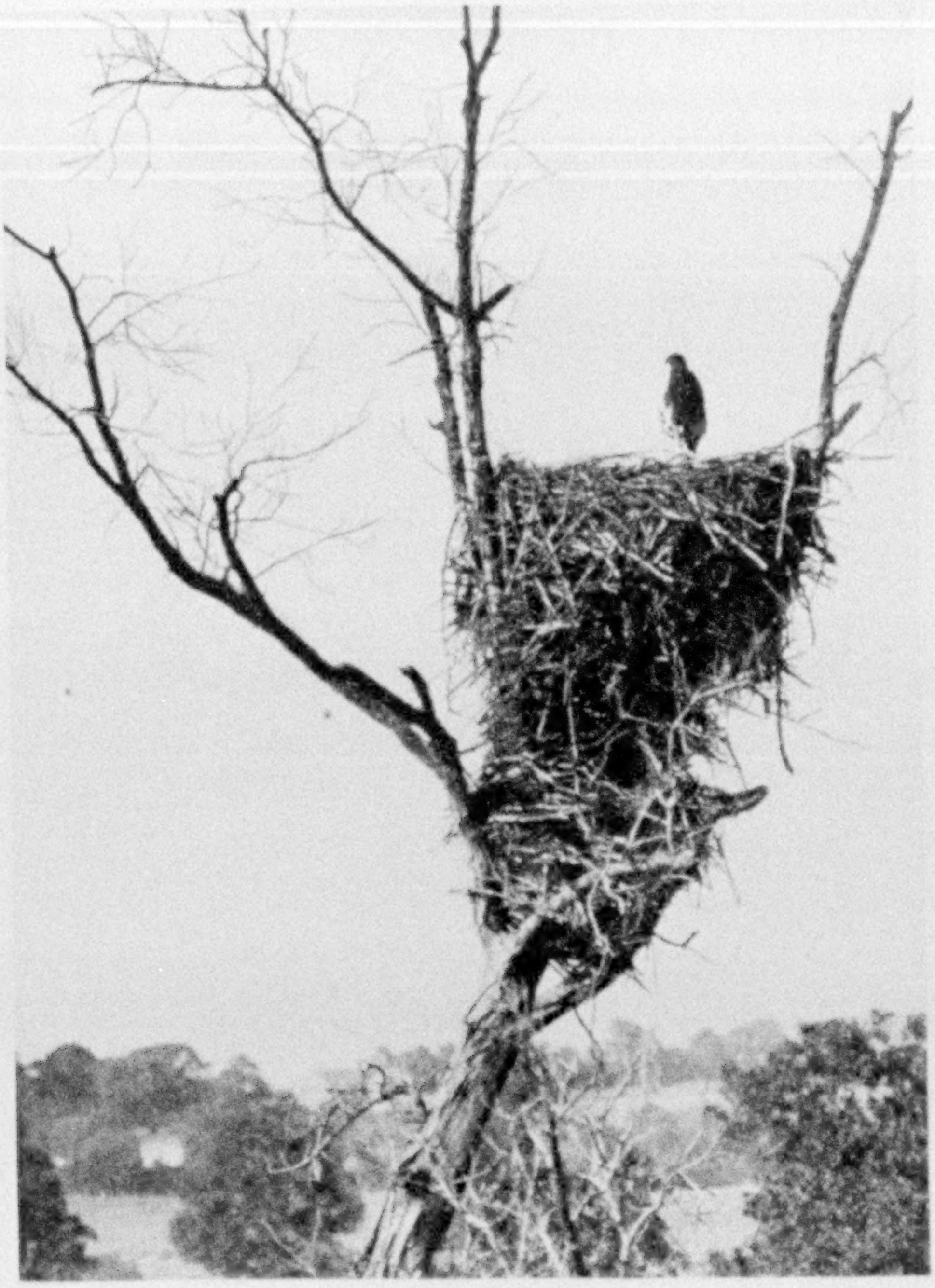
VIGILANCE IS NEVER RELAXED

Not many minutes later we can see that the male, who is now readily distinguished by his smaller size, has a place by her side. The eagle has learned the game of watchful waiting; the day is his and we must await his pleasure.

Focusing the glasses upon the pair, we can see that one, which is engaged in preening, will occasionally pause for a moment, perhaps to rub its bill or to scratch its head, while, if very hot, it may relax and drop both wings. Meantime the restless head of its mate is constantly turning upon its rigid body, as it surveys the whole situation.

The eaglets' day, like that of the old birds, is divided into periods of repose and decided action. As they stand bolt upright and close together on the margin of the nest, their brown coats and yellow shanks shining in the morning sun, they glance keenly about, now turning their eyes down to survey the earth, or skyward, as if to sense their parents coming with the desired quarry (see illustration, page 655).

Now and again one of them is heard to give a short, shrill cry, as if really calling for the nourishing mother. It will blink in the strong light, opening and closing the lids rapidly, and with the glass the observer can readily count the flick of the third eyelid over the ball, about twenty to the minute. Then one opens his mouth in a yawn, which is quite a different reaction from gaping in the heat. Now up goes his right foot, toes clenched, to stand for a minute or two upon the left leg, and after a brief rest it is up again. They will start at the crumpling of paper or at the driving of a nail in the tent frame, showing that they are alive to any unusual sounds.



Photograph by Francis H. Herrick

THE EAGLE'S HOME IS A CUMULATIVE STRUCTURE

This great eyrie, in a shellbark hickory at Vermilion, Ohio, measured 12 feet in height, 8½ feet across the top, and was occupied for 35 years. When this picture was taken one eaglet had left the nest; the other was standing on the nest perch and departed early on the following day (see text, pages 642 and 651).

As the breeze, which the eaglets are facing, perceptibly stiffens, we see one of those periodic exercises which are gradually preparing them for independent flight. Both begin to spread and jump, and with the aid of their wings are able to rise two feet or more from the floor of the eyrie. Then one takes a broad jump of six feet or more, to the opposite side of the nest, and, renewing its toilet operations there, sends the dislodged down flying to the breeze. These soft, fluffy feathers float over the eyrie, cling to the neighboring trees, and a few sprigs even enter our tent.

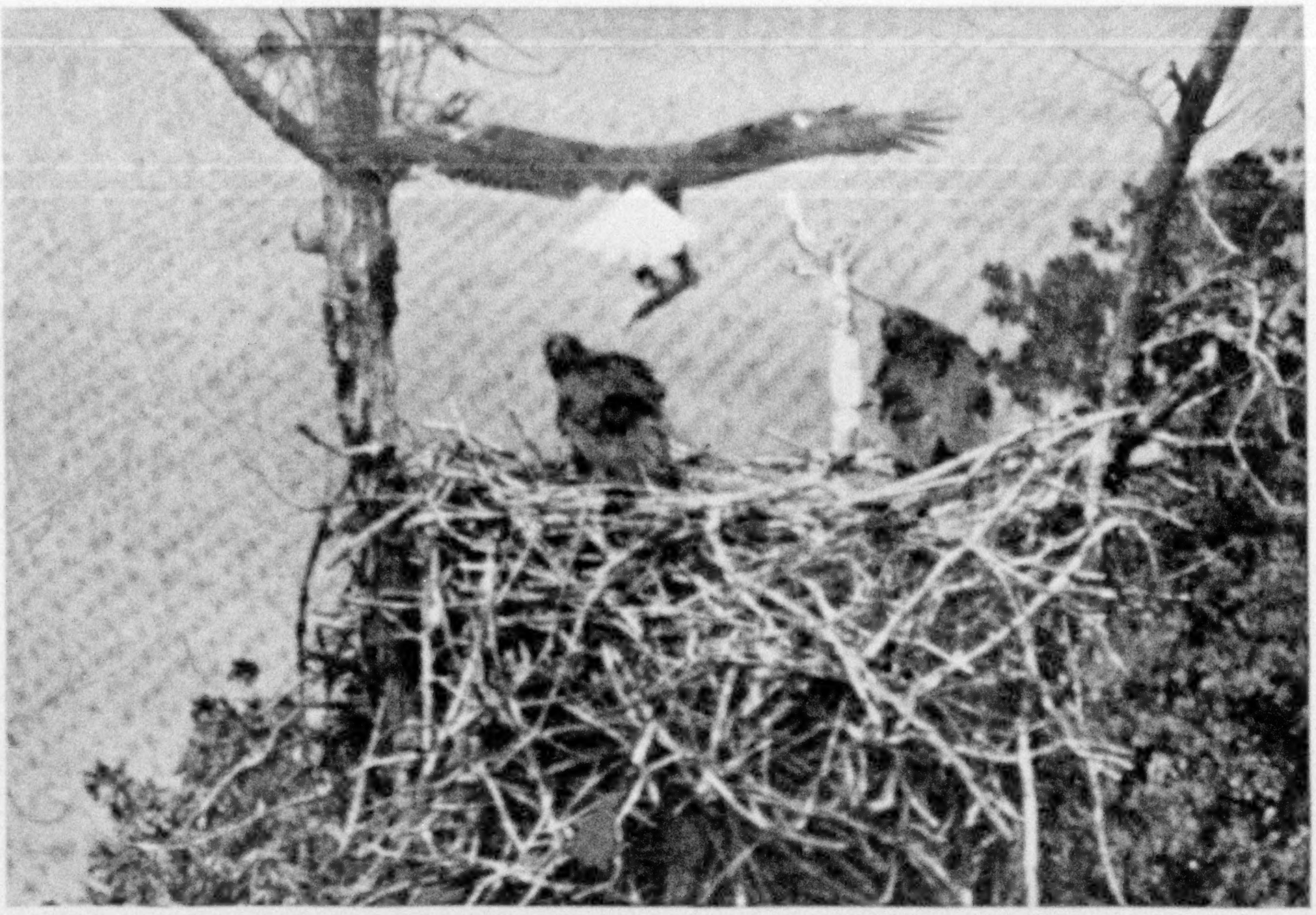
EAGLETS MAKE PRACTICE FLIGHTS

Such stereotyped performances become daily more frequent, and ere long the eaglet will rise from five to ten feet in the air, and even soar over the eyrie's edge, but always with the legs down and talons extended, to make his footing sure when he returns. The stronger the wind, the higher he will rise.

The other eaglet lies for some time flat in the nest, but is soon playing with the oak leaves, and we can see him peck at them, fondle them, and toss them about. A strange act, that of bringing green foliage to the nest, but common to many eagles and hawks. It may represent a dying instinct, the echo merely of an action which may have played an important rôle at an earlier day; or, perhaps it is only a freak of emotion on the part of the old birds, an act quite incongruous with any end to be attained and of which the field of behavior could supply many similar instances.

Turning eastward again, we see that one of the eagles has left its perch; it is the female, for the male is still in his place. Now we may look for action, though we never know when it will come. From three to four minutes is record time for old eagles in going from perch to lake and back to the eyrie with a fish, though they have often taken a full hour or more.

With the glasses we scan the lake and shore from Lorain Point to the Vermilion



Photograph by Francis H. Herrick

FATHER IS KEPT BUSY SUPPLYING THE FAMILY'S NEEDS

The male eagle, with a fish held in both talons, is about to enter his nest from the front, his white "fan" turned to the observer.

side, but fail to pick up our bird. Ten minutes later she comes into view, and is now flying at express-train speed. I can see that the feet are well down; she has her quarry. On she comes. Passing over the steam and electric lines by the shore, she bears westward, crosses a field, and makes straight for her eyrie.

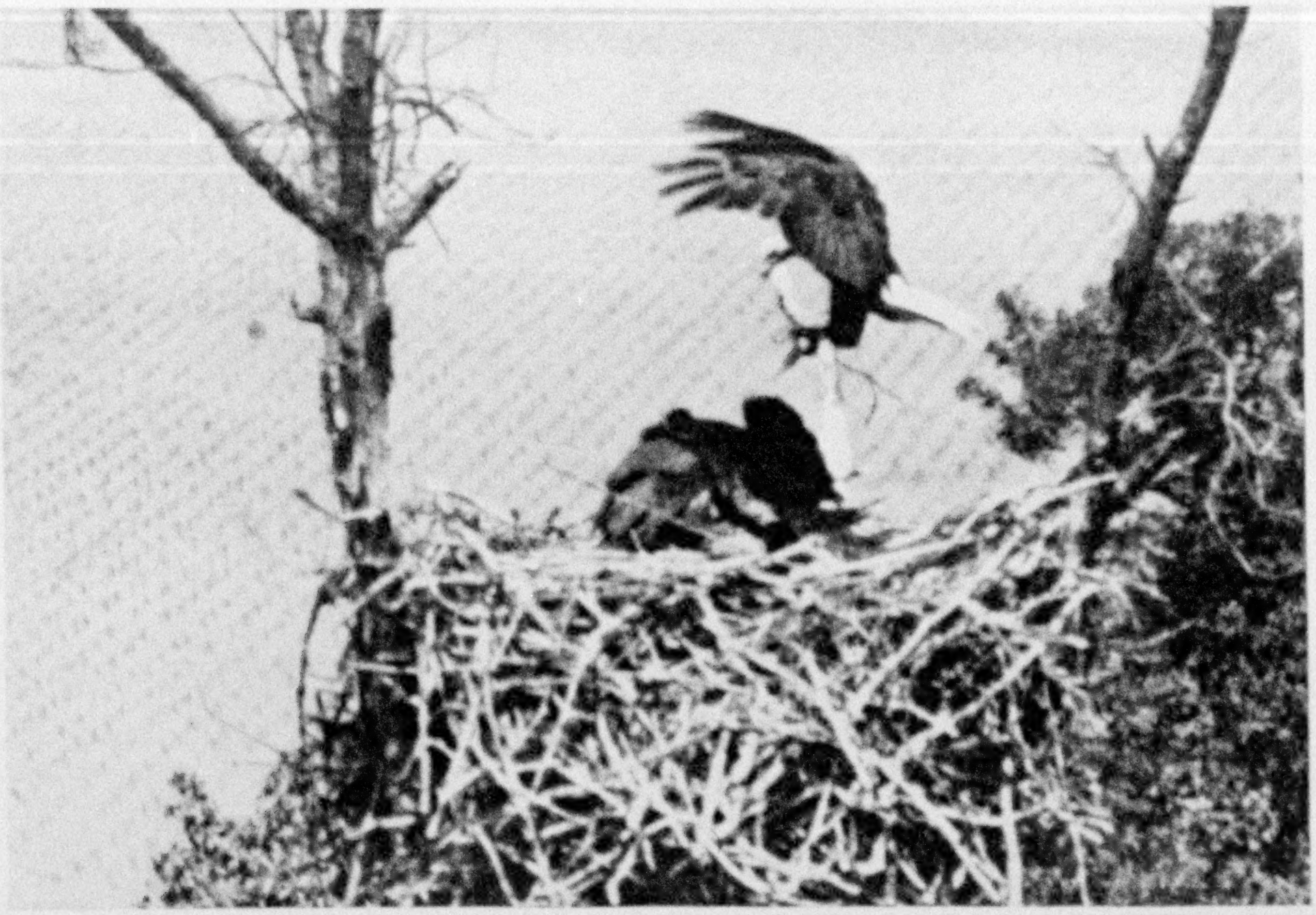
There is no hesitation now; the monarch bird does not slack her speed. The fish, held low in her talons, is plainly a large one and its white belly gleams in the clear sunlight. Squealing in their efforts to scream, the two eaglets crouch and erect their feathers in anticipation of good things to come. When close to her nest, the old eagle puts on the brakes, and with head erect, wings up, and the feet, holding the fish, thrown forward, lands with a thud on the eyrie (see page 650).

EAGLES HAVE AN ETIQUETTE OF THEIR OWN

In an instant she comes to attention and keenly surveys the situation. Her young, all aquiver with excitement, continue to crouch and squeal, with their wings half spread, but they seldom venture to advance. The old bird now seizes her quarry, which appears to be a lake catfish of about four pounds in weight, and with one foot drags it to the center of the nest.

Standing on it there, she begins ripping it up without further ceremony. With swift thrusts of her bill she detaches large pieces of the white flesh and, taking a glance around at each upward stroke, swallows them in rapid succession. Then to the nearest bird, which by this time has edged up to its parent, she passes several pieces from bill to bill, and goes to work again on her own account.

When eaglet number two has been served in the same fashion, she moves a few steps away; whereupon number one seizes the carcass and, spreading over it, claims it as his own. Squealing, with head down, but for some moments without touching a morsel, he warns all intruders away. Meanwhile the other eaglet, drawing nearer, with head extended, watches the feeding bird and, seldom venturing to interfere, patiently awaits its turn (see illustration, page 653).



Photograph by Francis H. Herrick

RUSHING HOME WITH DINNER FOR THE BROOD

The eagle is arriving at high speed with a fish. At the moment of slowing down the wings are thrown forward in front of the head (see, also, pages 650 and 659).

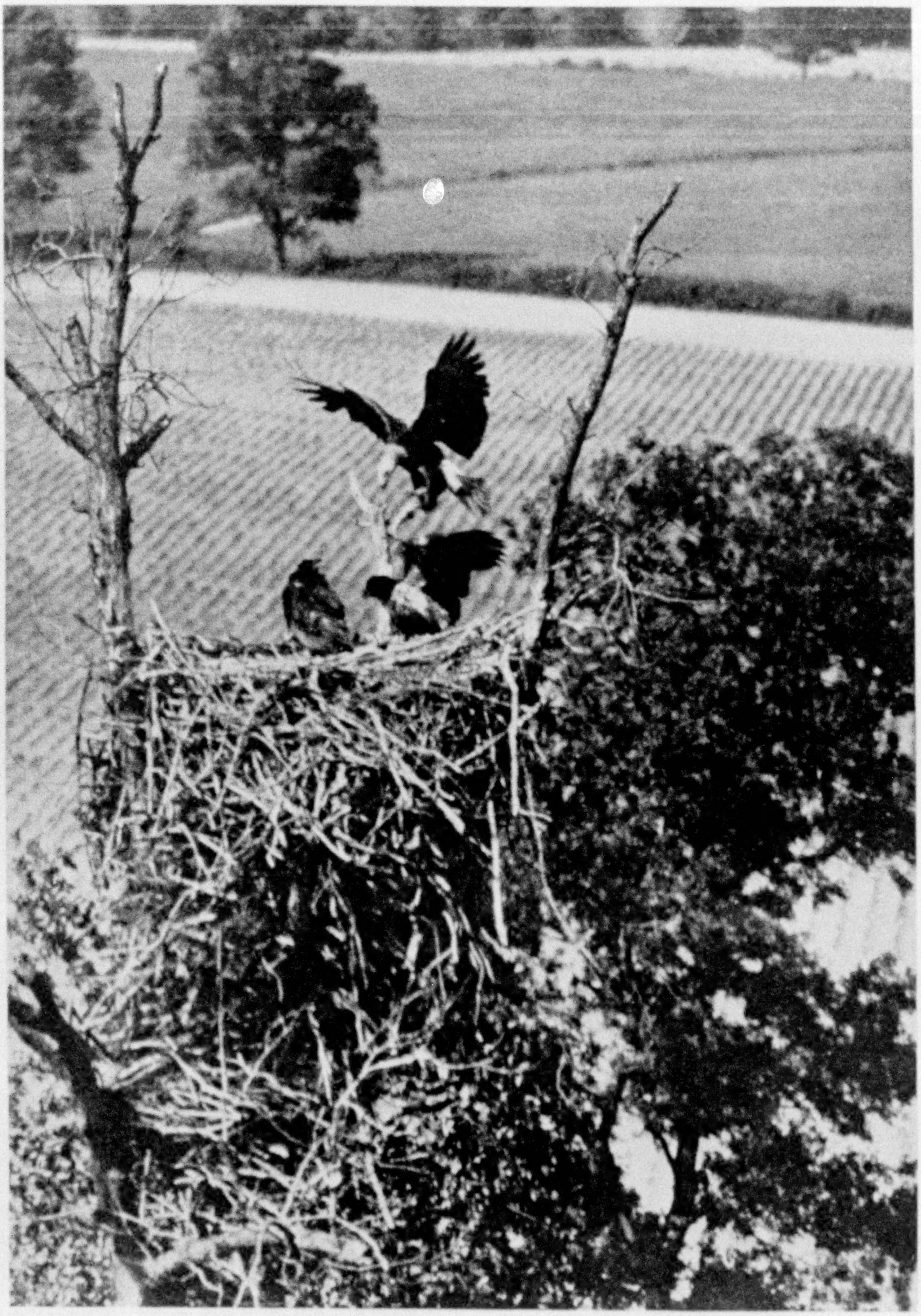
The mother eagle, having satisfied her appetite and having ministered to her young, flies to the stub on the north side of the nest, for that has now been adopted as a regular perch, and there for over an hour we can study her at leisure and photograph her at will. Having carefully wiped her bill, she proceeds to dress her plumage, and while thus engaged frequently comes to attention. With head turning through a half circle, either way, now with her gaze fixed upon our tent and now upon other objects at a greater distance, she is never off guard for long, but is keenly alive to what transpires in the air about her and upon the earth below.

The processes which jut over the eyes and shield those restless orbs from above impart a sternness to her visage which was lacking in the equally alert and wary male. Now she has detected a moving object on the ground and, extending her head in its direction, repeatedly opens and closes her mandibles; then suddenly sails off to the east.

Upon leaving their eyrie the eagles will sometimes drop ten feet or more before beginning to rise. Again they will take off directly, and when thus seen from behind, with legs down and talons extended, they make a curious picture; for at the moment the wings are raised the motion of their quivering tips is so rapid that only a blurred image is registered at exposures of 1/235th of a second (see page 637).

The eagles did not always enter their eyrie with prey in the way just described, but often came in from the lake flying low; then, suddenly rising as they reached the nest, they would slip over its far side with such speed that it was difficult to see what was brought. When flying high, as rarely happened, they would enter from the front or rear, poise for a moment above the nest, and drop like a plummet to its center.

Large fish and fowl were always carried low down in both talons. The heads of the prey were frequently gone and the chickens almost invariably plucked. Small fish were held in one talon and it was sometimes surprising to find them bringing in the small tail end only, the greater



Photograph by Francis H. Herrick

ARRIVING AT EXPRESS-TRAIN SPEED (SEE TEXT, PAGE 648)

The female is putting on the brakes as she lands a fish, which is held in the right talon. Both eaglets are squealing, one with the wings raised, an unusual attitude. Time of exposure, 1/435th of a second.

part of the body having doubtless been eaten on the beach where it was found. When thus carrying their prey, they move with great speed and at the moment of landing often assume more nearly the typical heraldic attitude, with wings outspread and the feet wide apart.

The position of the head, whether erect or depressed, and of the wings, whether raised over the back or directed forward, seems to depend on the speed attained at the moment of slowing down.

ONE OF THE EAGLETS LEAVES THE NEST

By the 30th of June, which proved to be the last full day of life at the eyrie in 1923, many things had happened. Three days before, one of the eaglets, becoming restless, began to move about with wings spread, in his usual fashion, and I photographed him as he rose some six feet in the air. As I turned to replace the plate, he went off like a flash, and later we saw him moving about from perch to perch in the neighborhood of our observatory.

To our great surprise, in exactly two days' time he came back, screaming, and was the cause of an interesting scene. The second eaglet reacted toward it precisely as if it were the parent bringing food—spreading before it, squealing, and, with bill held up, begging to be fed; but the first bird, being a seeker after food and not a purveyor of it, seized a carcass, spread over it, true to form, and began to pick the bones.

Meantime eaglet number two hopped on the stub at the far side of the nest, now the common perch of both young and old birds, and the strange scene was reversed; for upon its return to the floor of the eyrie the second bird became the "parent," and the other, promptly leaving the carcass, trailed after it, spreading its wings and begging in turn for food.

Shortly before 6 o'clock on the morning of June 30 the female eagle landed a large fish, and half an hour later we had a visit from the male, who came directly from the lake with a mullet or small blue pike held in the talons of the right foot. After a brief stay he flew directly to his favorite "tall east perch," five hundred feet away.

At 9 o'clock, as I was adjusting the camera, a chorus of squeals announced the mother's return. She entered on my right, landed a plucked chicken, and immediately set to work. Standing on the fowl, she ripped off piece after piece, coming to attention, as usual, with every upward toss of the head and cautiously peering about.

On this occasion the young ventured to approach, both together, but otherwise observed the regulation formula, squealing, with the feathers erected and the wings dragging and half spread. Bill-to-bill feeding followed, and, after quick service for herself and young, she hopped to the stub, but only to leave it for a more favored perch. The eaglets were now free to take their turns at the chicken, and at 10 o'clock bird number two was thus engaged, drawing out the intestines and stripping the flesh from the drumsticks.

A few minutes later on that eventful day an interesting episode occurred, when two turkey buzzards flew over the nest and, like black airplanes, began circling above it. The two eaglets watched them with curious eyes; but well down and out of sight of the buzzards, on the "tall east perch," other and more jealous eyes were also on the watch.

In an instant one of the eagles was in the air and made posthaste for the eyrie, encircled it, and then reconnoitered the neighborhood, while at the same moment the buzzards, having suddenly lost their interest in the nest and its contents, began to rise and circled ever higher and higher, until, at a safe distance of a mile or more from the earth, we could see them veer and move off to the east.

ADVENTURES WITH BLACK SNAKES

Eaglet number one left the eyrie for a second time on the afternoon of June 30, while the remaining bird took flight between 5 and 6 o'clock on the following morning, after having spent ten weeks and four days continuously in its home nest. In 1923 there was no starving out of the young, no luring them away from the nest with food which was repeatedly shown but not delivered, as occurred in the preceding year; on the contrary, the eagles' larder was well stocked up to the last hour of life in the eyrie.

Since the eagle has been venerated from ancient times as an enemy of the serpent, we were surprised to find the black snake not only venturing close to the eagle's tree, but trespassing on our own immediate preserves; for, on ascending to the observatory shortly after noon, one day in June, one observer suddenly encountered a black snake, which was later found to be nearly four feet long, coiled in a large hole in the tree, at a point thirty feet from the ground and about a foot from the ladder. It struck at him as he passed, in the well-known manner of poisonous and of many quite harmless snakes; but, continuing the ascent, he returned with a hammer, stunned the intruder, and threw it to the ground.

It may be interesting to add that when returning from the eagles' nest a few days later I encountered another black snake close by our grove. A frog, jumping for dear life, almost from under my feet, was hotly pursued by its arch enemy down a little watercourse which crossed the lane at this point; but the snake, too intent upon its prey to notice any intrusion, was not to be denied. As with jaws wide opened it reached and struck its victim, the poor frog gave a last feeble croak.

The snake turned quickly and, with head raised high, bearing the frog, made for the nearest cover, in a field of grain close at hand.

CONTENTS OF GREAT EYRIE ARE REVEALED

The tragedies of living Nature are unceasing, but it is an exceedingly ill wind that does not offer the observer some crumbs of information by way of recompense. When the male eagle was wantonly killed, in November, 1924, we had the opportunity to test the rule, found to hold good for certain species, that the bereft bird, if a female, goes in search of a mate; but if a male, waits for a possible mate to come to him. The rule held in this case, for the female, after an absence of about eleven weeks, appeared early in February with a new partner in attendance.

When the great eyrie at Vermilion, which had endured for 35 years, crashed, in March, 1925, its solid core, consisting of a brown loamlike substance, was sprinkled with the bones of fish, mammals, and birds, the remains of innumerable eagle dinners, besides a great variety of miscellaneous objects.

Since the eagle does not regularly sweep house, but is content to refresh it from time to time with a layer of straw and stubble, its domicile, rising at the rate of about three inches a year, becomes in time a mass of vegetable decay, in which bones, feathers, and hair may be preserved for long periods. Naturally we were anxious to examine the solid core of this structure, assured that it would give us a remarkable cross-section of the food habits of these particular birds.

When exaggerated reports of the Vermilion eagles, which were accused of stealing turkeys and lambs, were spread abroad and demands were made for their destruction by the State, the findings in the core of their great eyrie were used with convincing force for their protection.

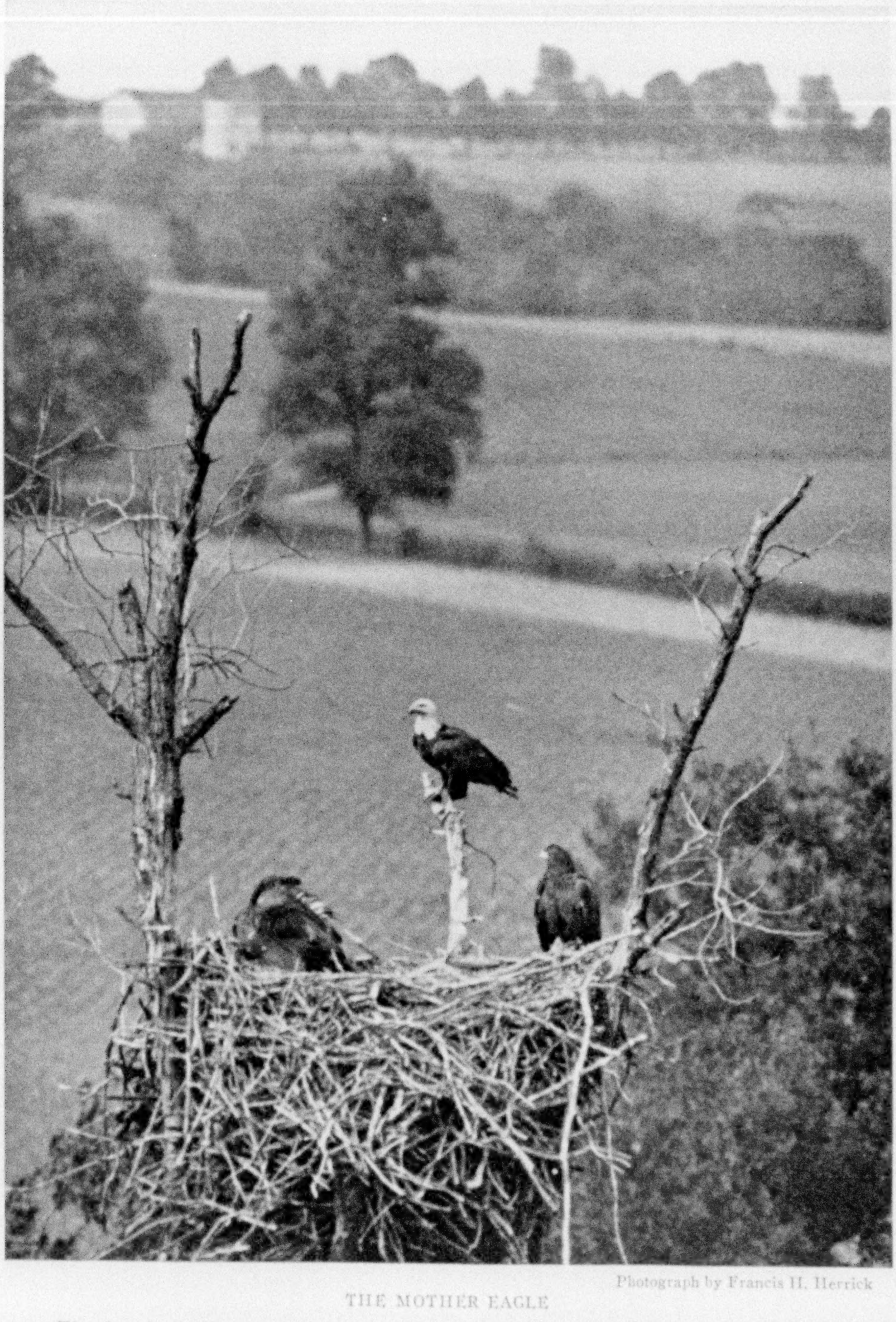
In the whole collection of objects recovered, some sixty of which were tabulated, there was not a single bone of a turkey or a goose, or of a domestic fowl larger than a chicken, and not a bone of a mammal larger than a rabbit.

WE MOVE OUR OBSERVATORY TO A NEW NEST

Ten days after the great nest went down at Vermilion, in the storm of March 10, 1925, a new nest, the fifth known to have been built and occupied in that immediate neighborhood, was under way in another part of the same grove. Two eggs were laid and two young eagles were successfully reared in that year.

The observatory platforms, used at different times for the study of the greater nest, were constructed at heights of 82 and 95 feet and had a working distance from tent to eyrie of 85 feet. Encouraged by the success already attained and wishing to reduce this distance to what we regarded as the optimum, 40 feet, in 1926 we decided to hazard the experiment, never attempted before, of approaching the eagles' eyrie by means of a steel observation tower erected on the southerly side of the eagles' tree.

Unforeseen complications immediately arose in regard to the use of the property on which our tower was to stand, and for three critical weeks the work was held up. It is a well-known practice of the eagles to rebuild or refurbish their eyrie in late winter or early spring of each year, and it is a noteworthy fact that they had



Photograph by Francis H. Herrick

THE MOTHER EAGLE

The female, having brought in a fish, has retired to the nest perch. The eaglet on the left has spread over the quarry, claiming it as his own, while the other, not venturing to approach, patiently awaits his turn (see text, page 648).

already started their own building operations before ours were under way. For eighteen days, from February 17, when the workmen laid the foundations of the tower, until March 6, when the work was finished, the eagles were prevented from following the bent of one of their strongest instincts; nevertheless, they remained in the vicinity and were daily seen by the workmen.

A TRAGIC ENDING

Equally remarkable was the fact that on the day after the steel workers had departed and their hammers no longer resounded through the grove the old eagles returned to their task, bringing in an abundance of sticks, cornstalks, straw, and dead grass, the last of which was raked up in their talons as, flying low, they would sweep slowly over a field.

This tower was 80 feet high and brought the observer exactly 40 feet from the margin of the eyrie (see illustration, page 636). Three eggs were laid in 1926, the maximum number noted in this region. So far as we observed, they were rarely left unguarded, and never for more than a few moments at a time, possibly on account of the presence of that inveterate robber, the crow, which the eagles were constantly driving from their territory.

Incubation began on March 18, or in exactly twelve days from the time of completion of the tower, and lasted until April 18. With the eagles everything seemed to move like clockwork, male and female sharing their labors equally and working in regular shifts. One of the birds would sit on the eggs for about two hours, while the other stood guard on one of their habitual perches close at hand, or made a sortie to the lake or the countryside for food.

In conducting the shifts a rather definite formula was observed. The sitting bird would give a sharp chitter when wishing to be relieved; the mate, if within hearing, came to the eyrie, moved up close, and the exchange was quickly made. If the eggs were left for only the shortest time, they were carefully covered with a great quantity of grass, stubble, and other convenient nest material, and the scrupulous covering and uncovering process would sometimes last from five to ten minutes.

Those eagles never appeared to mind our tower in the least, but at first the tent aroused their suspicions. They seemed to know perfectly well whether both or only one of the observers had left it, but after a few days our comings and goings gave them little or no concern, and they would turn their backs to the tent and feed their young for half an hour with perfect composure (see pages 641-643).

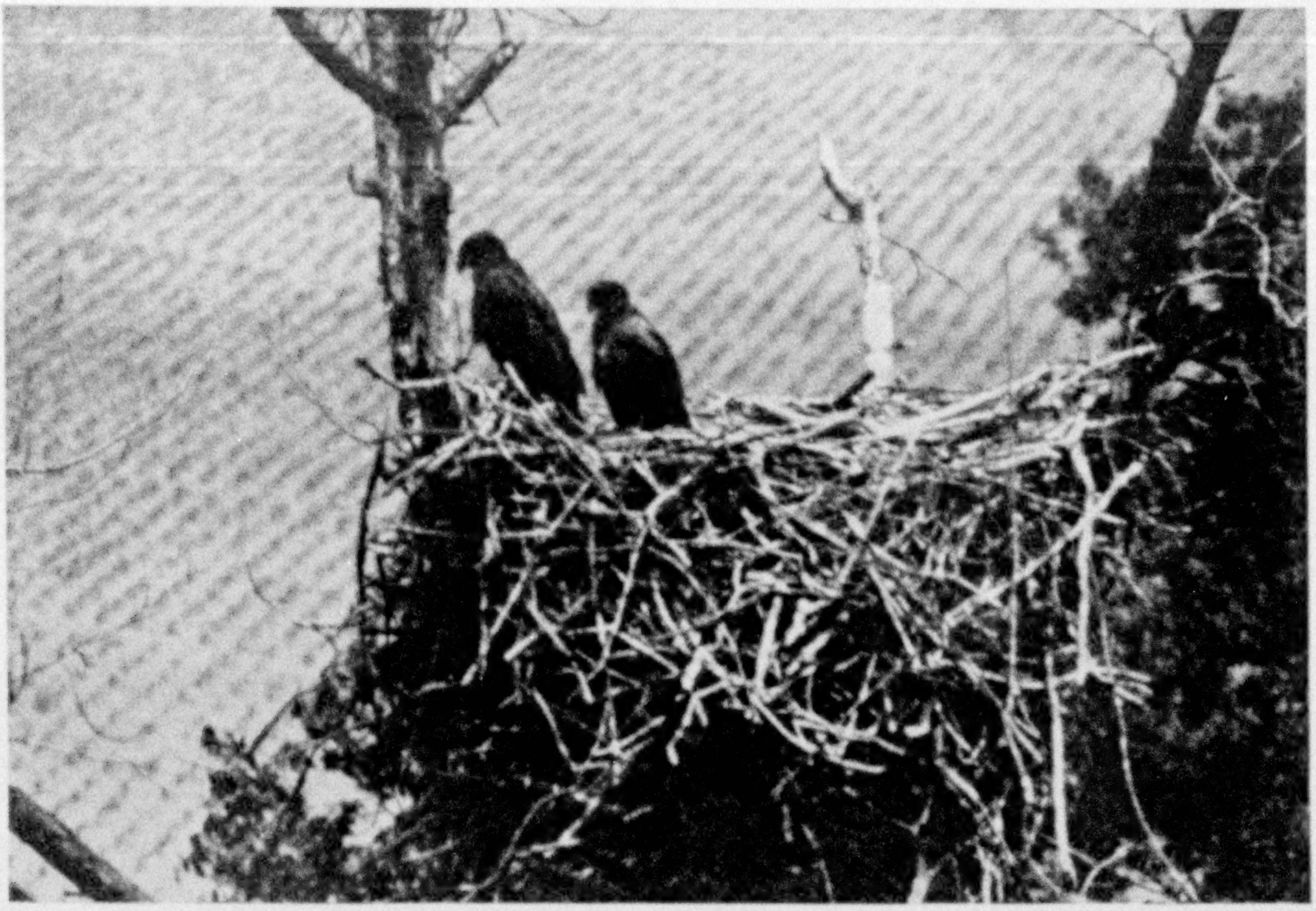
When our observations from the tower had become systematized and we were beginning to take motion pictures, on the evening of May 18 a fatal storm broke again, and once more our plans and those of the eagles were summarily shattered. The nest crashed to the ground, and the three eaglets, then grown to more than half their full size, lay lifeless amid the ruins. At slightly over four weeks of age they had a wing spread of 43.5, 39, and 34 inches, respectively, and their corresponding weights were 8 pounds 2 ounces, 6 pounds 2 ounces, and 6 pounds.

FEMALES LARGER AND HEAVIER THAN MALES

Mr. A. B. Fuller, of the Cleveland Museum of Natural History, who prepared the skins of these birds, found that the two smaller were males, while the larger and heavier was a female. This is possibly a significant fact, since the adult female eagle is known to surpass the adult male very considerably, both in size and weight.

After examining the broken top of the eagles' tree, which still bore green foliage, it became evident that in this case we were really defeated by the ravages of the wood-eating larvæ of a beetle, many of which, in the form of large white grubs the size of a man's thumb, were still in action. In the course of time successive broods of these insects had gnawed away and reduced to a powder the solid foundations of the castle of the kings of the air.

After the storm had wrecked the last Vermilion eyrie, in May, 1926, we picked up our 80-foot steel tower and transported it 80 miles to another nest, at Geneva, in another county (see page 639), but only to meet with eventual disappointment. At this new station the tower was erected in November, 1926, in order to be ready for the eagles in the following spring. All



Photograph by Francis H. Herrick

EAGLETS DOZING IN THE MIDDAY SUN

Standing like statuettes on the edge of the eyrie, they can be seen for half a mile (see page 643).

went well there, so far as we could see, until late in April, 1927, when something got at the eggs and destroyed them.

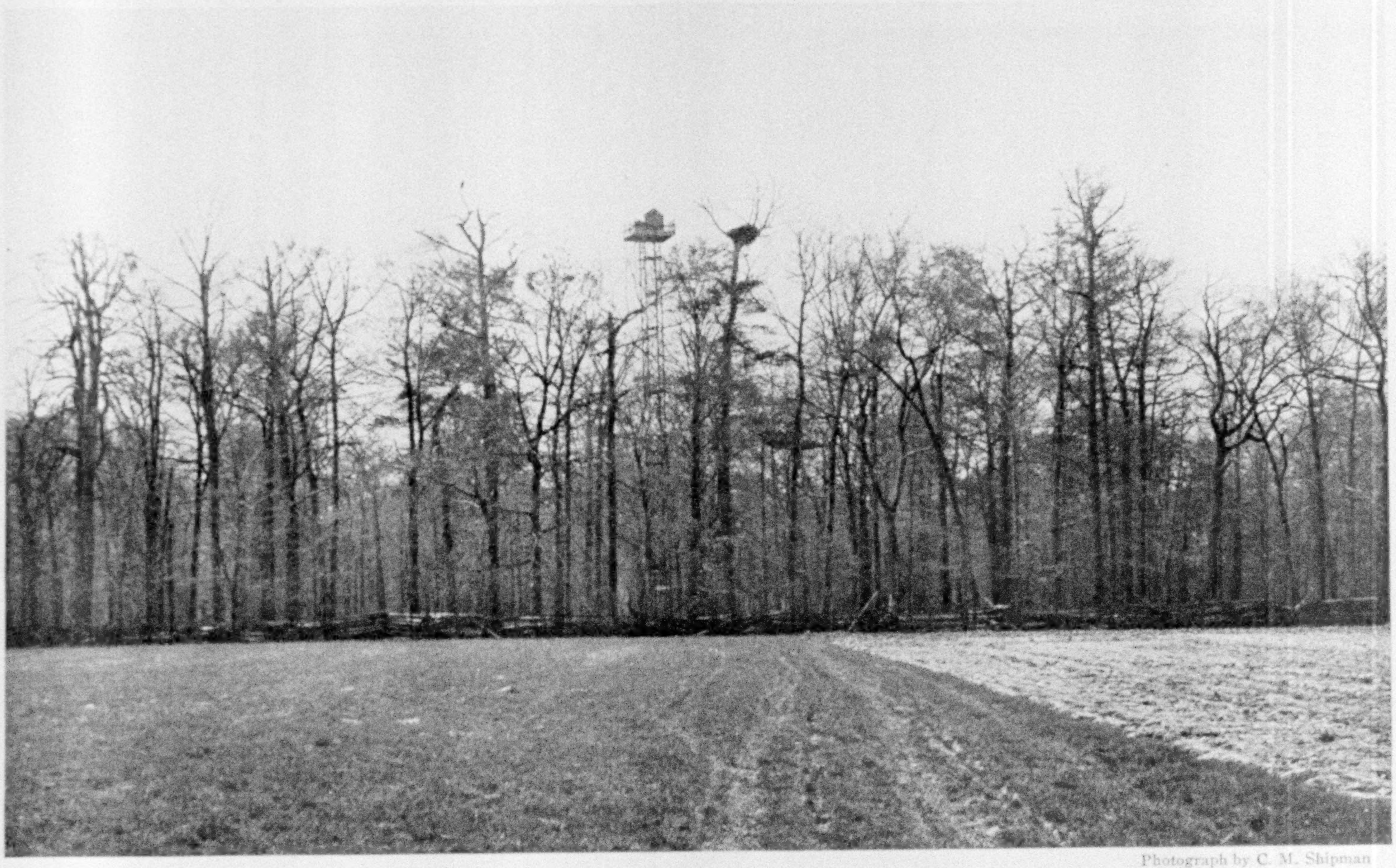
We then moved 80 miles back to Vermilion, and set up the tower beside a nest that had been built close to the town line, in February, 1927, to replace, as we supposed, the one demolished at a point two miles farther west in the previous year, but some doubt was later cast upon this point.

In company with my friend, Mr. C. M. Shipman, who had assisted me since 1926, I spent ten weeks at this station and gained further insight into the domestic polity of eagles, as will be now related. Our aim has been to have one observer on duty in the tent, atop of the tower, throughout the day, rain or shine, cold or hot, in order to obtain as full and exact records as possible of all activities of old and young eagles during the entire ten or twelve weeks of life at the eyrie. If this end has been measurably attained, it is due to the generous support given me by Western Reserve University, for without this aid little could have been accomplished.

The eagles of that section have always favored the largest available trees for their nests, in any suitable grove near the lake, and in this instance had built the eyrie in a living ash, at a height of 86 feet, amid a great canopy of foliage that tended to render our task doubly difficult. The concrete foundation for the tower was laid in November, and the work was completed in five days, early in the following January, 1928. It rose to a height of 91 feet on the southerly side of the eagles' tree, and the distance between the platform and the front of the big nest was 38 feet, which was about as near as I considered it advisable to go (see illustration, page 656).

FURIOUS BATTLES IN THE AIR

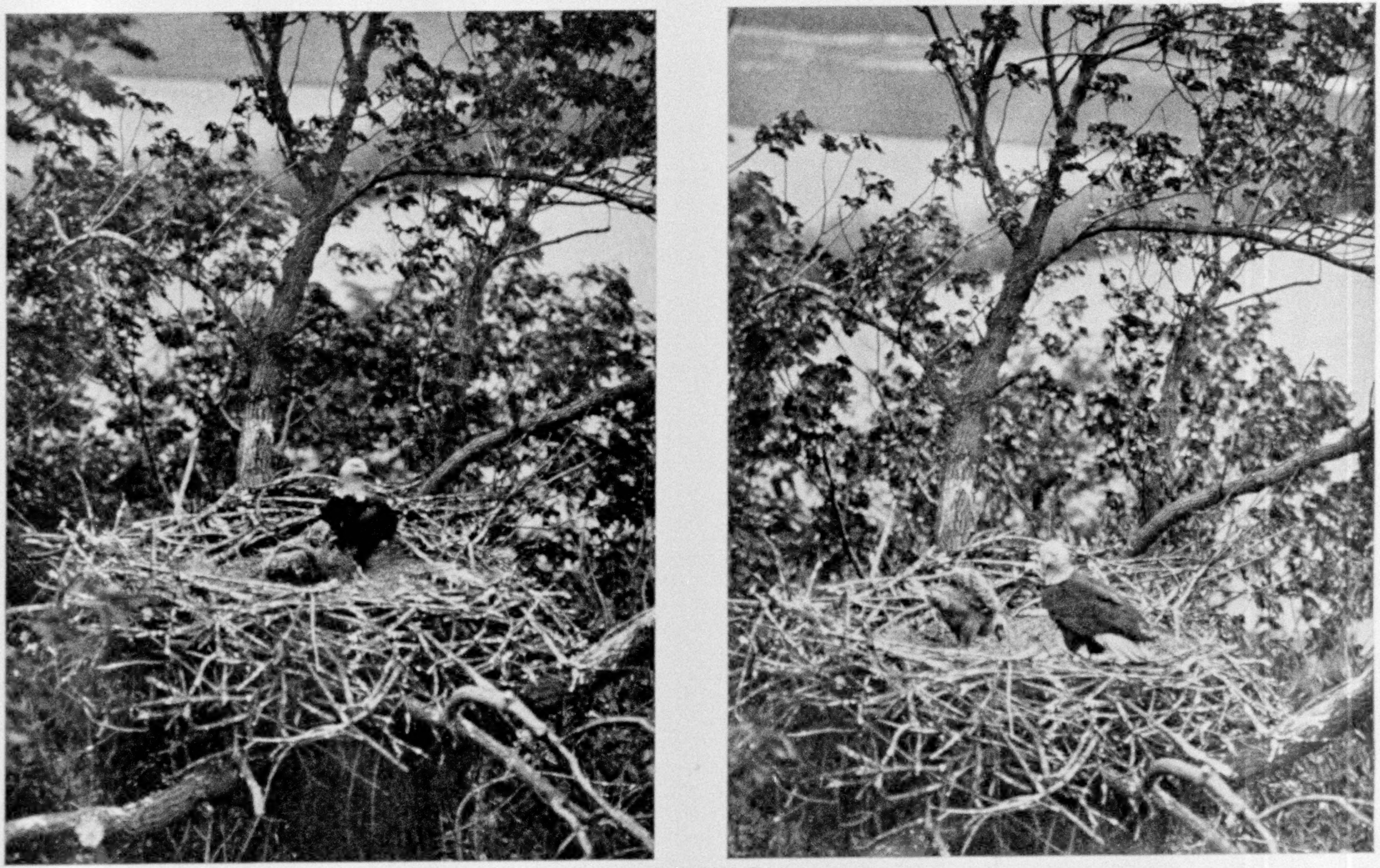
Our first task was clearing away all obstructing branches, and a large one in particular, about which the eagles had carried their construction so completely that it seemed to rise from nearly the middle of the eyrie. This tree, on account of the treacherous nature of its bark, proved most difficult and dangerous of ascent, even by our most skillful climber, who was obliged to break away a part of the nest in order to enter it.



Photograph by C. M. Shipman

THE EAGLE OBSERVATORY OF WESTERN RESERVE UNIVERSITY, NEAR VERMILION, OHIO, OCCUPIED TEN WEEKS, APRIL–JULY, 1928

The steel tower rose 91 feet and brought the observer's eye and camera 38 feet from the front of the big nest, which is in a living ash, more than seven feet in diameter (see, also, page 655). The female eagle is standing guard on her favorite perch, at the left.

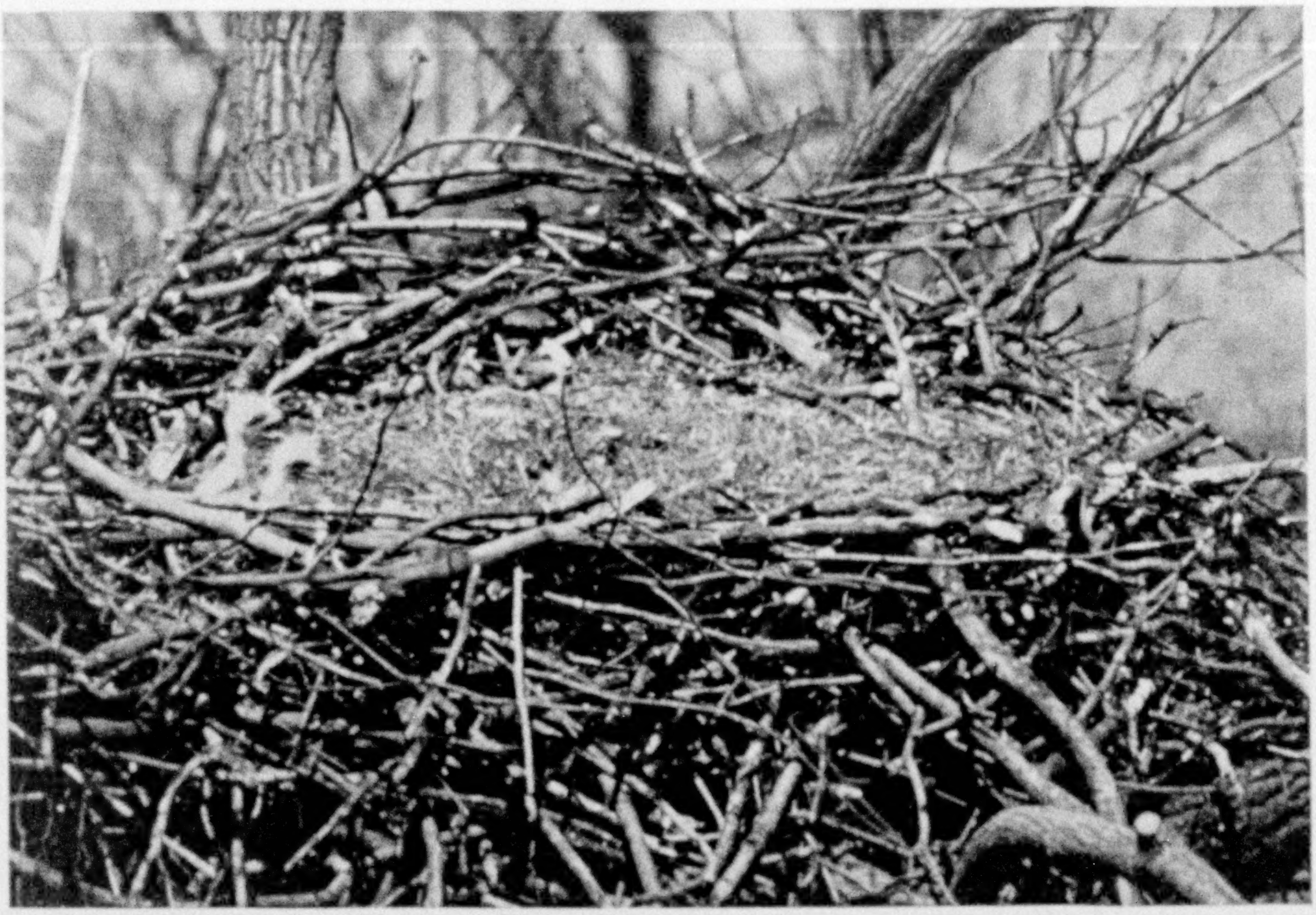


Photographs by C. M. Shipman

WHEN THE FATHER EAGLE DISAPPEARED, THE MOTHER ASSUMED THE FAMILY BURDEN ALONE (SEE PAGE 658)

The widowed eagle has just deposited a load of straw on the eyrie, but hears a disturbing sound and comes to attention.

The widowed eagle is interrupted while feeding her surviving eaglet. Suspicious, she erects her headdress and looks straight at the camera.



Photograph by Francis H. Herrick

EAGLETS TWO TO THREE WEEKS OLD

This eyrie stands at a height of 86 feet, in a living ash (see, also, page 656). The rampart of sticks surrounds a large bed of fine, dry grass. The smaller bird at the right was so mistreated by its larger nestmate that it died a week after this photograph was made. A sight of eggs or newly hatched young is rarely obtained by the observer because of the care with which the old birds cover both upon leaving them.

The eagles readily accepted all of these changes, as well as our tower, but after the tent was in place troubles assailed us from a new and unexpected quarter, not from the hand of Nature or of man, but from other eagles, which entered the territory of our birds and fought them with great fury. This happened in the second week of May, when the two eaglets were about two weeks old.

Two sharp battles, of which I was an anxious witness, occurred on the thirteenth and fourteenth of the former month. The birds would rush at each other at top speed, screaming all the while, and as the two came together one would try to strike with open talon, and the other to avoid the blow. The outcome seemed to be a draw until one eventually sought refuge in a tree.

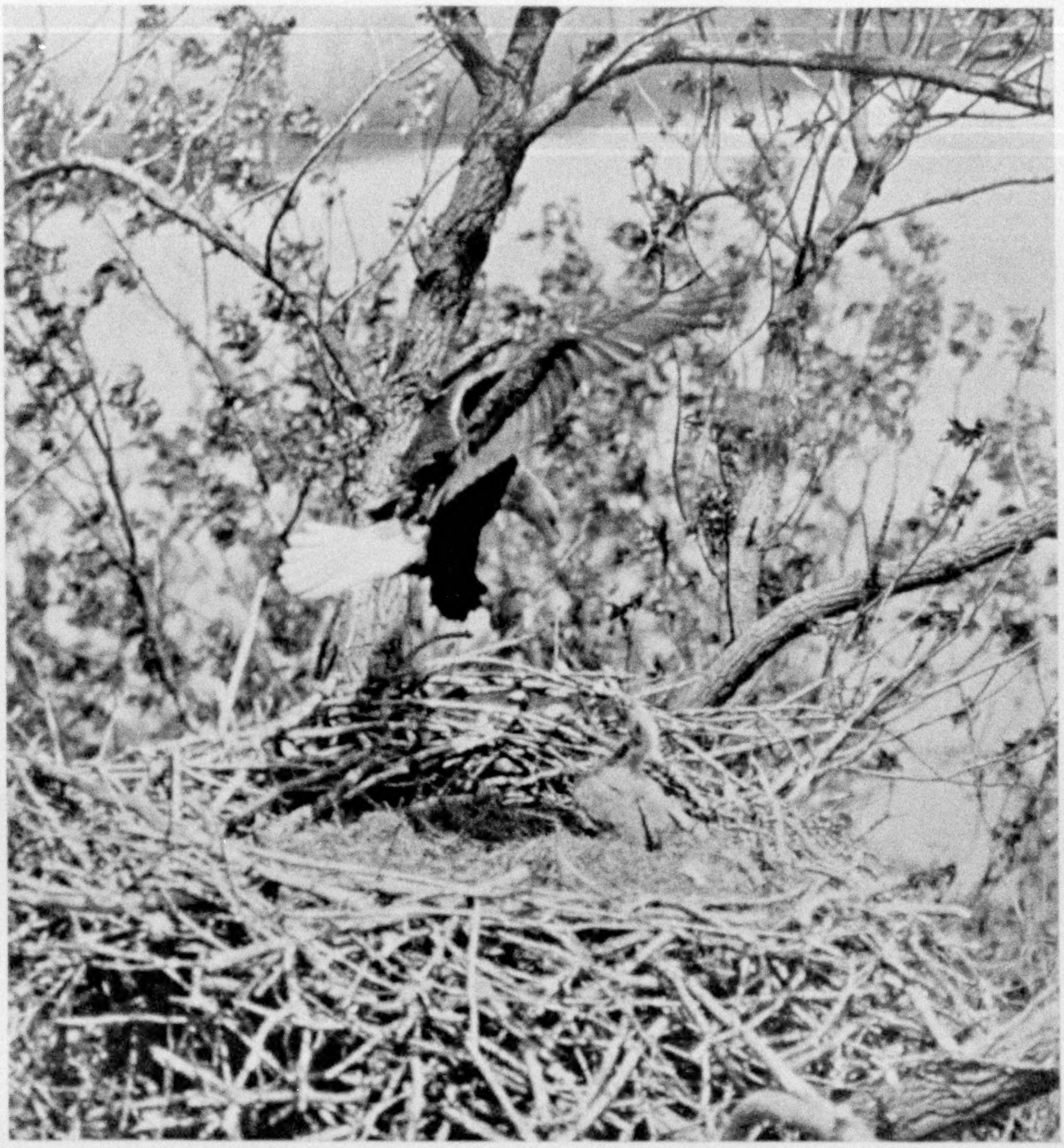
Soon after the last encounter the male eagle disappeared, having been killed, as we supposed, and the task of rearing the eaglets fell entirely to the mother bird.

What meaning should be attached to these events, which for a fourth time threatened to forestall our work or bring it to an abrupt end, cannot now be determined with any assurance. The action which I have attempted to describe was difficult to follow with accuracy because of the extreme rapidity of the movements.

Eagles, like many other birds, will defend a certain area or breeding territory, over which they strive to exercise the right of eminent domain, and will drive off all suspicious trespassers.

The fights which we chanced to witness might have been the culmination of a warfare that had long existed, or they may have dated only from a recent mating, wholly unknown to us. In the first event the birds at this nest may not have been the original Vermilion eagles at all, but invaders, which came in after the downfall in 1926, and had got a foothold before the older residents could oust them.

Be this as it may, the loss of the male partner caused a serious disturbance in the normal routine of eyrie life, for complete



Photographs by Francis H. Herrick

PUTTING ON BRAKES

A female eagle puts on the "brakes" when about to land on the eyrie with a fish held in both talons (see, also, pages 649 and 650). The eaglet in gray down is five weeks old. Because of its magnificent presence, superb powers of flight, and devoted care of its family, the American eagle is a worthy national emblem.

coöperation is the rule in aquiline domestic affairs. The mother eagle became extremely nervous when thus suddenly deprived of her guarding mate and spent less time at the nest than would otherwise have been the case. The two eaglets, still in white down, suffered in consequence, but had the season been less tempestuous both would no doubt have survived.

As it was, the older eaglet, which we had reason to believe was a female, being the more vigorous, held up most of the food and soon began to mistreat her younger and weaker nestmate. She would always strike at his head with her bill, and with such force that he was sometimes knocked over, when he would lie on his back with feet up, as if completely done for; and unfortunately we were unable to help him, either to his feet or to a square meal. When, under such conditions, the old eagle again landed a fish she would quite disregard her puny infant, then in such dire need of maternal care, and bestow her attention upon the larger and greedier bird.

So matters went on for a number of

days until, on the nineteenth of May, hail and rain beat so relentlessly upon the great nest that the much-abused eaglet, with hardly enough strength to crawl beneath the mother's sheltering wings, finally succumbed, and its body was trampled into the great mass of withered grass which formed their bed.

The mother occasionally entered the eyrie with prey held in the bill, and we wondered if this fact had not escaped earlier notice on account of her extremely rapid movements. I had heard of an eagle transferring its prey, when not too large, from talon to bill, while still in the air, and wondered if this maneuver might not have happened here, although we were unable to observe it.

At this station also we saw for the first time living fish brought to the eyrie, and in one instance a catfish, which flopped about vigorously enough until the old bird brought her scimitar into action. This shows, if added proof were needed, that our eagle can immerse on occasion, at least to some extent, and speaks well for the vitality of a fish which can endure a journey of two miles or more in the raptor's talons. On her fishing excursions the eagle would often fly far from shore and drop low over the water, until we could no longer pick her up with glasses.

EGGS ARE KEPT WELL COVERED

At only one of the four nests beside which we have camped has it been possible to see the eggs and newly hatched young, because of the care with which the old birds were wont to cover both upon leaving them.

The play instincts of the young eagles, which I have described, but to which only the motion picture can do full justice, throw a new light on the remarkable size their eyrie often attains, the top of the great Vermilion nest (see page 647) having had an area of nearly fifty square feet.

The eyrie is the eaglets' gymnasium and flying field for many weeks, and its continued use year after year, with the extensions which this entails, renders it safer and more adapted to the purpose it serves, even if Nature must set a limit to the strength and durability of its supports.

The young eagle, by dint of the long practice which its heredity imposes, must become a perfect master of flight and an adept in treating its prey before it is permitted to leave its ancestral home. One of our young eagles easily made a mile in its first flight, and soon after the survivor of last year was on wing she was soaring with her parent far above the earth.

For weeks after leaving the eyrie, in mid-July, this eaglet formed the habit of using our tower for a perch; and it seemed strange indeed to see this great bird standing on the railing of the platform, close to the very spot where we had so often stood while watching her from our tent; and stranger yet to behold her leave this point, which to us seemed quite elevated enough, and, rising ever higher and higher toward the clouds, soar and circle as if in pure enjoyment of her liberty and power.

As late as the first week in September, when this young eagle was four and one-half months old and nearly eight weeks out of her nest, we found her still close to her old home. The mother bird was also there, and, to our surprise, after going to the lake and returning with a fish, she made straight for her eyrie, as in former days; and the young eagle followed her there and no doubt claimed a share of the booty.

As I write these concluding paragraphs (March 27, 1929), the female eagle, which was tragically bereft of her mate last spring (see page 658), has returned to her old eyrie accompanied by a new mate. We are impatiently awaiting the time when we can safely replace our tent on the steel tower beside this nest and resume our studies of our national bird.

We have had to step up to the eagles very slowly and cautiously, owing not only to the costly nature of our experiments, but to the number of independent variable factors involved. We are always in jeopardy, so far as success is concerned, because of the vicissitudes of the weather.

My rule is to disturb the eagles as little as possible during their incubation period, which extends in northern Ohio from about mid-March to mid-April, and our tent cannot usually go up before the last week of the latter month. The high winds with which we have to contend on the lake shore render the use of any tent extremely precarious even in April, no matter how strong it may be or how firmly it is lashed to platform and railing.

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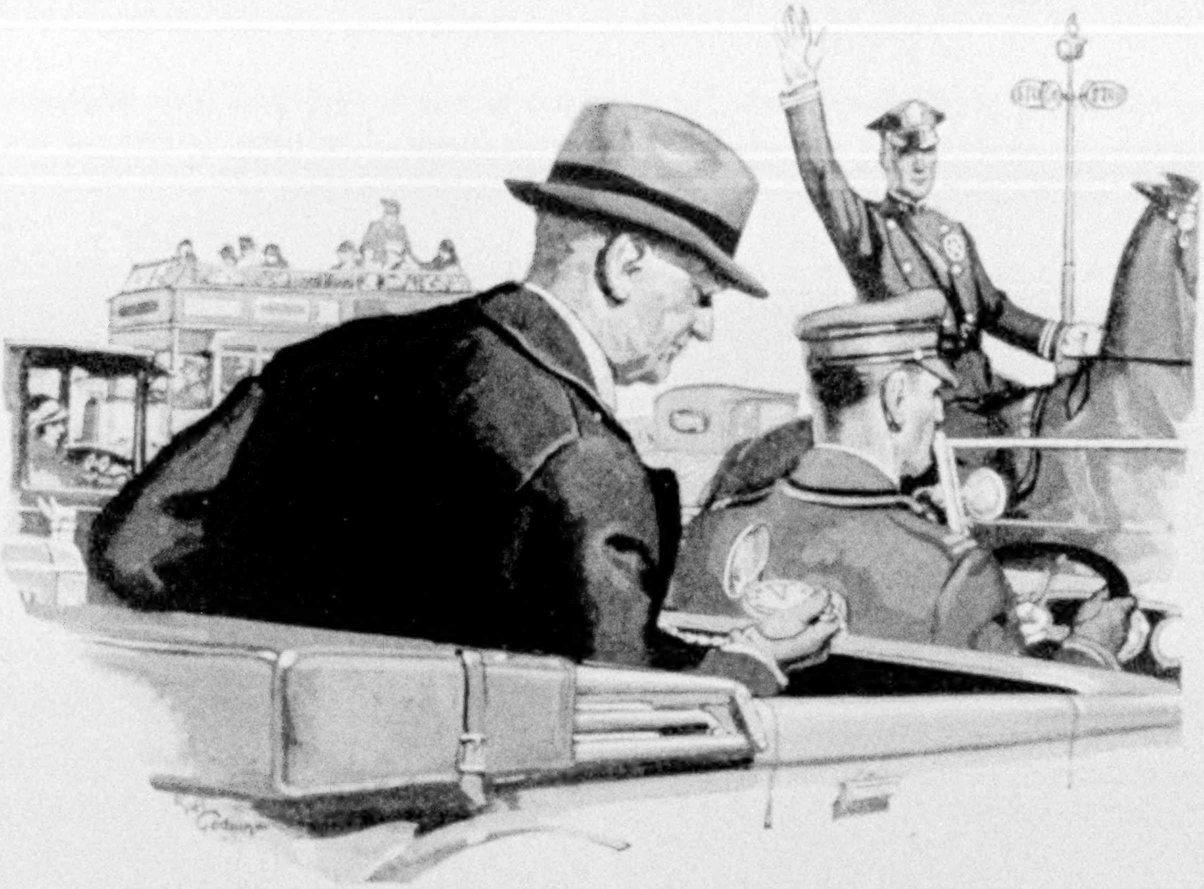

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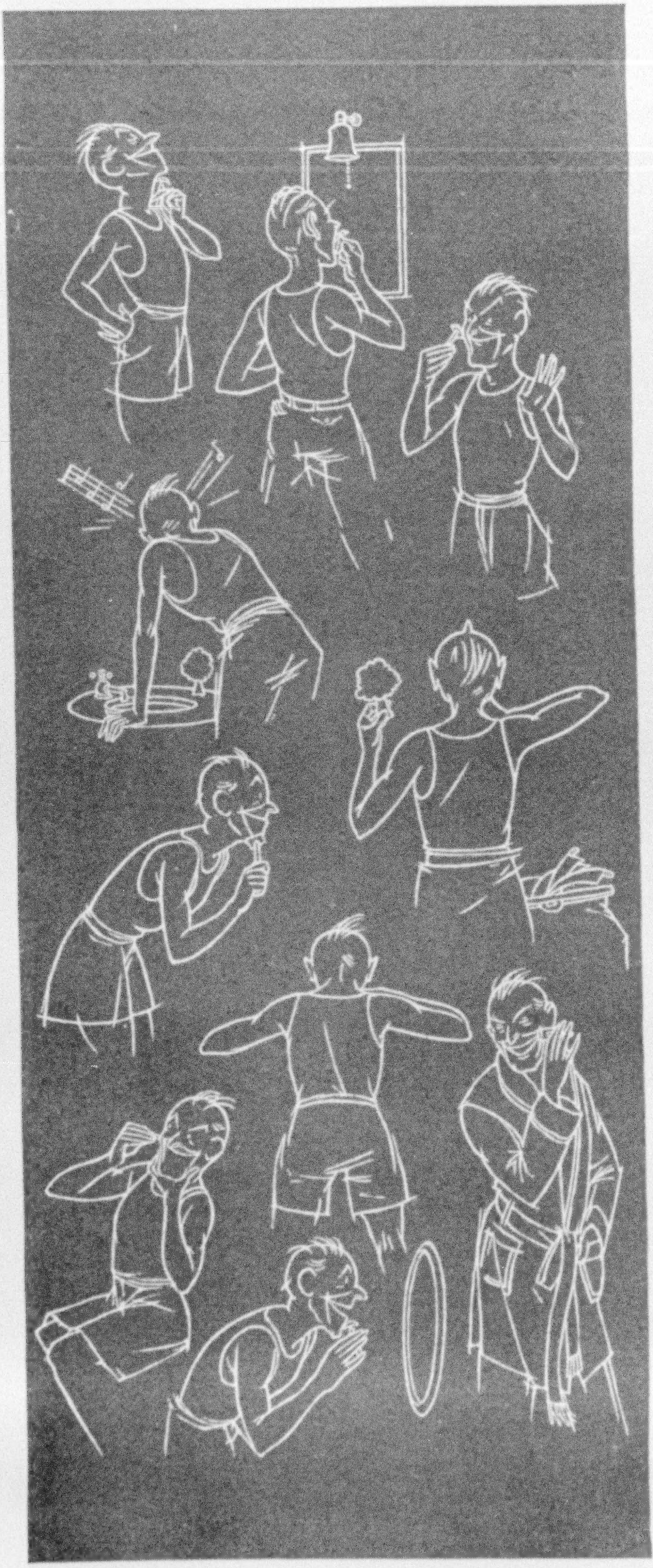

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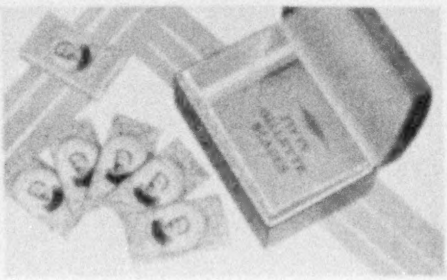

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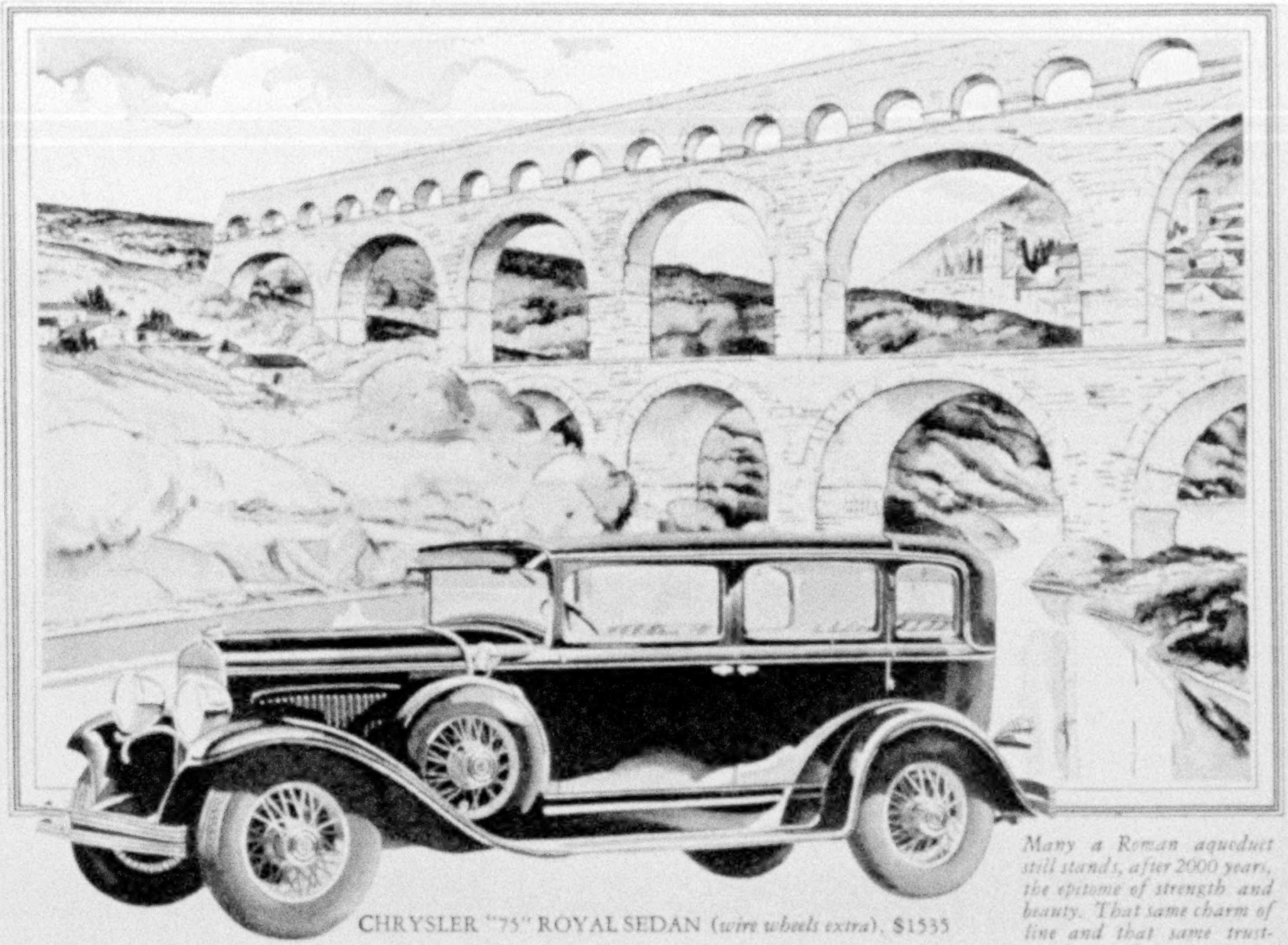

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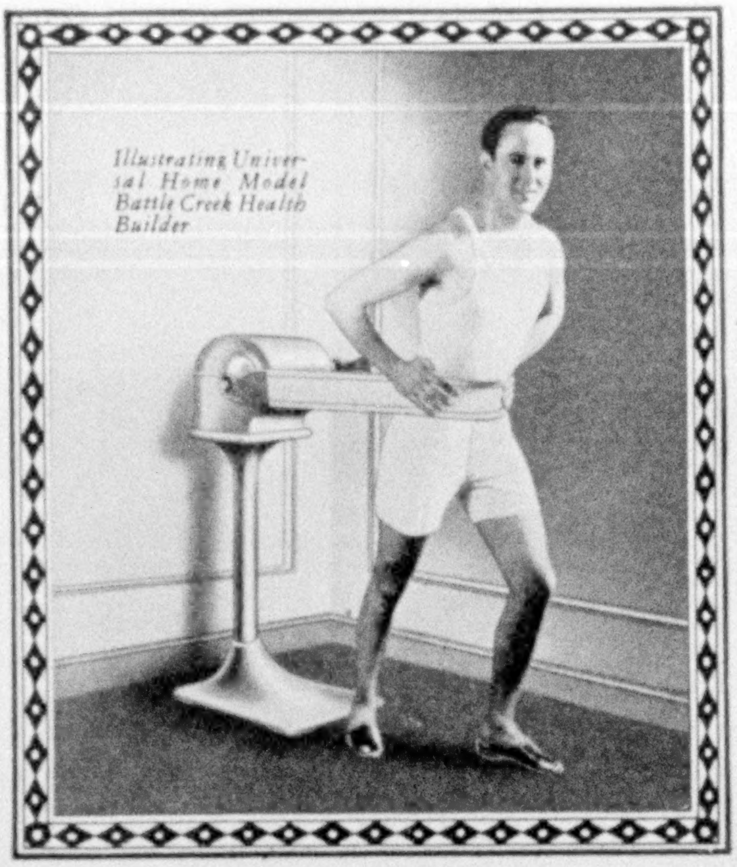
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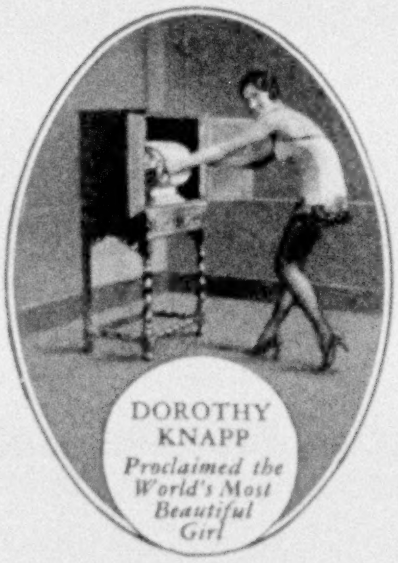
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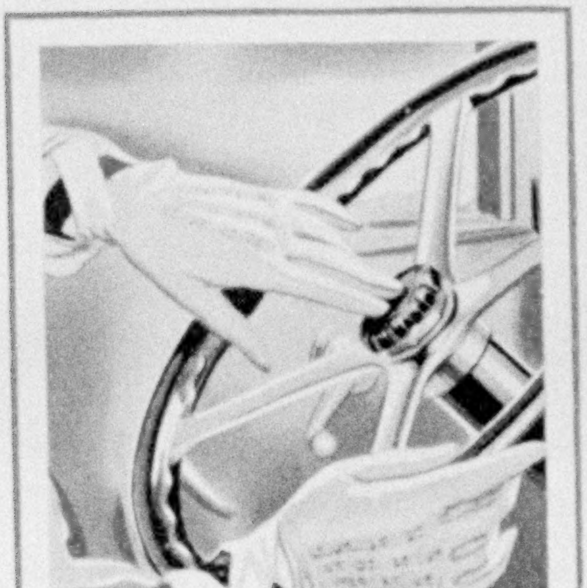

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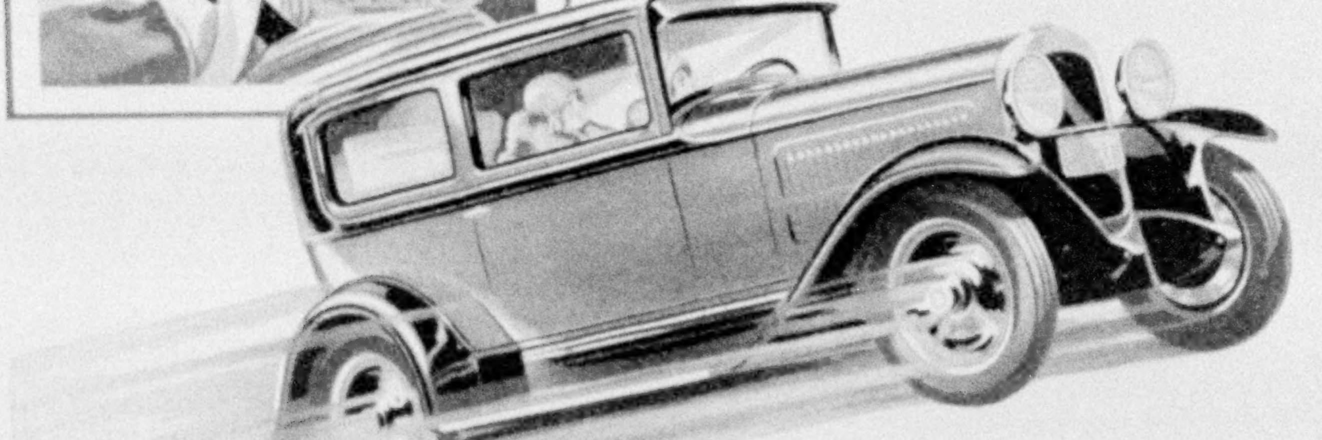

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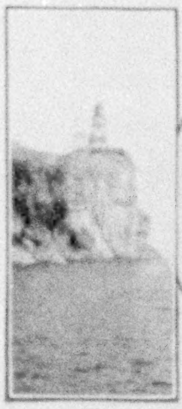

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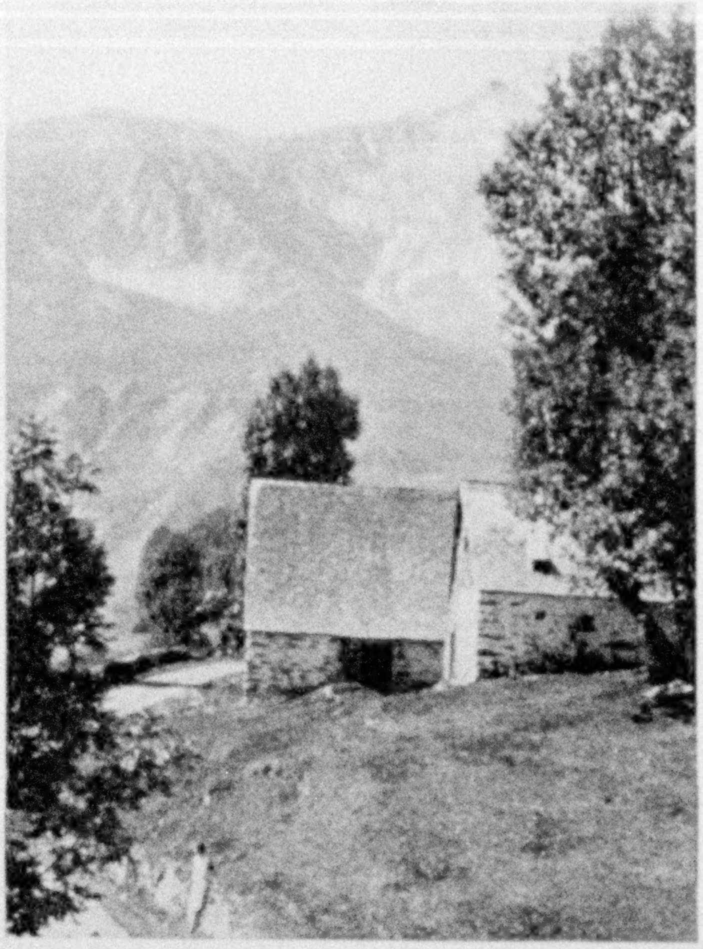

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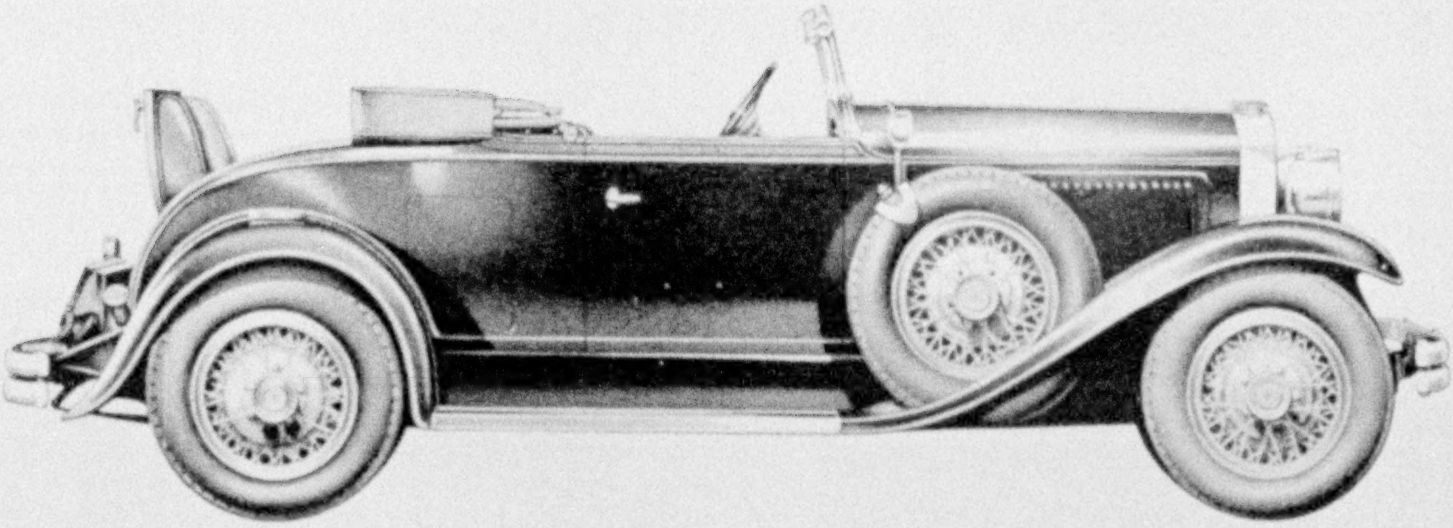
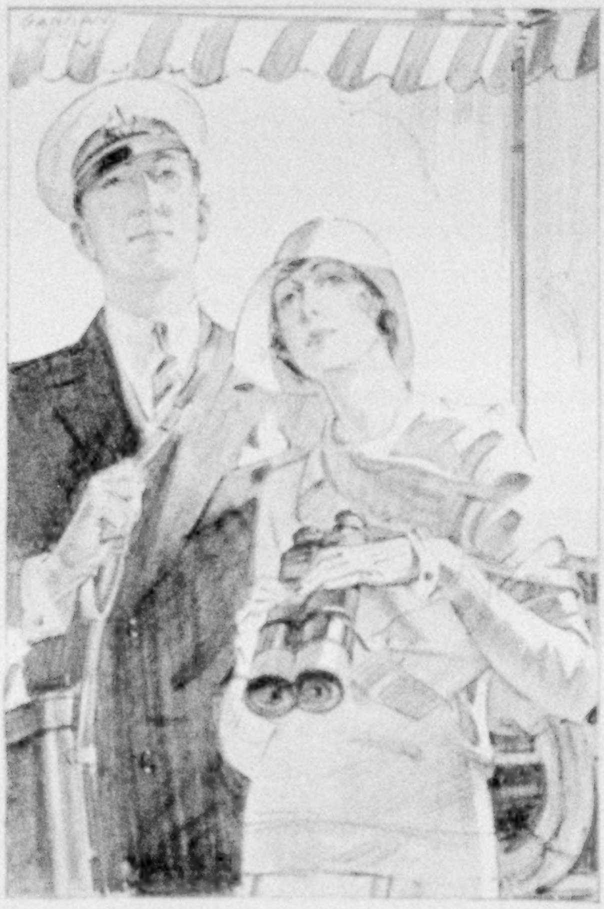


THE ROADSTER *(wire wheels extra)*



LARGEST, handsomest and most luxurious of all Dodge Brothers products—the Dodge Brothers Senior is a custom car in all but price. Its performance and long life bear out that conviction with finality. Walter P. Chrysler inspired the Dodge Brothers Senior—fashioned, tailored and equipped it in the Chrysler way. Dodge Brothers built it with that rare skill so characteristic of Dodge Brothers quality craftsmanship. At its present much lower price the Dodge Brothers Senior transcends in value, in style, in beauty, and in its intrinsic worth cars costing much more.

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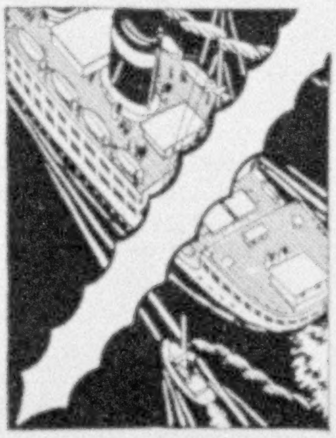
CHRYSLER MOTORS PRODUCT

Who pays if your baggage is lost or damaged?



Let America's oldest fire and marine insurance company protect you against financial loss should your baggage become lost, damaged or stolen. Ask your agent or broker to get you a North America Personal Effects policy.

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Or mail this coupon—

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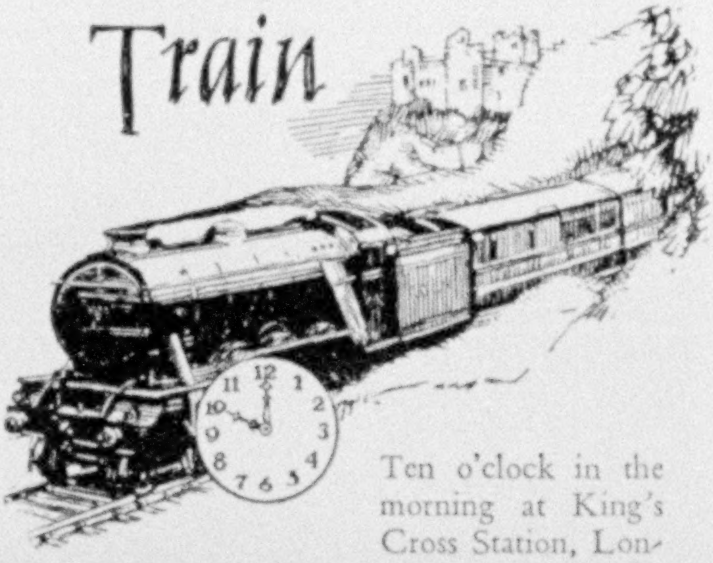
Name ....
Street ....
City .... *State* ....
wants information on Personal Effects Insurance

Britain

from the World's most Famous Train



Ten o'clock in the morning at King's Cross Station, London, is a thrilling moment... for the "Flying Scotsman" leaves for Edinburgh.

Out of London town winds this famous train, through delightful Hertfordshire and Bedfordshire; past the land of the Pilgrims, where the American nation was conceived; skirting the magic river Ouse; over the Yorkshire Moors and Dales; through York and Durham; and across the Scottish border to the wild beauty of the Highlands.

The "Flying Scotsman" traverses the charming Eastern counties of England... the Cathedral line. The pageantry of mediaeval and modern England glides by without... and within every innovation of the 20th century. Louis XVI restaurant, barber shop, electric cooking, retiring room for ladies. Every weekday from both London and Edinburgh on the stroke of ten.

Write for free illustrated booklet No. 68 describing the wonders of this fascinating trip

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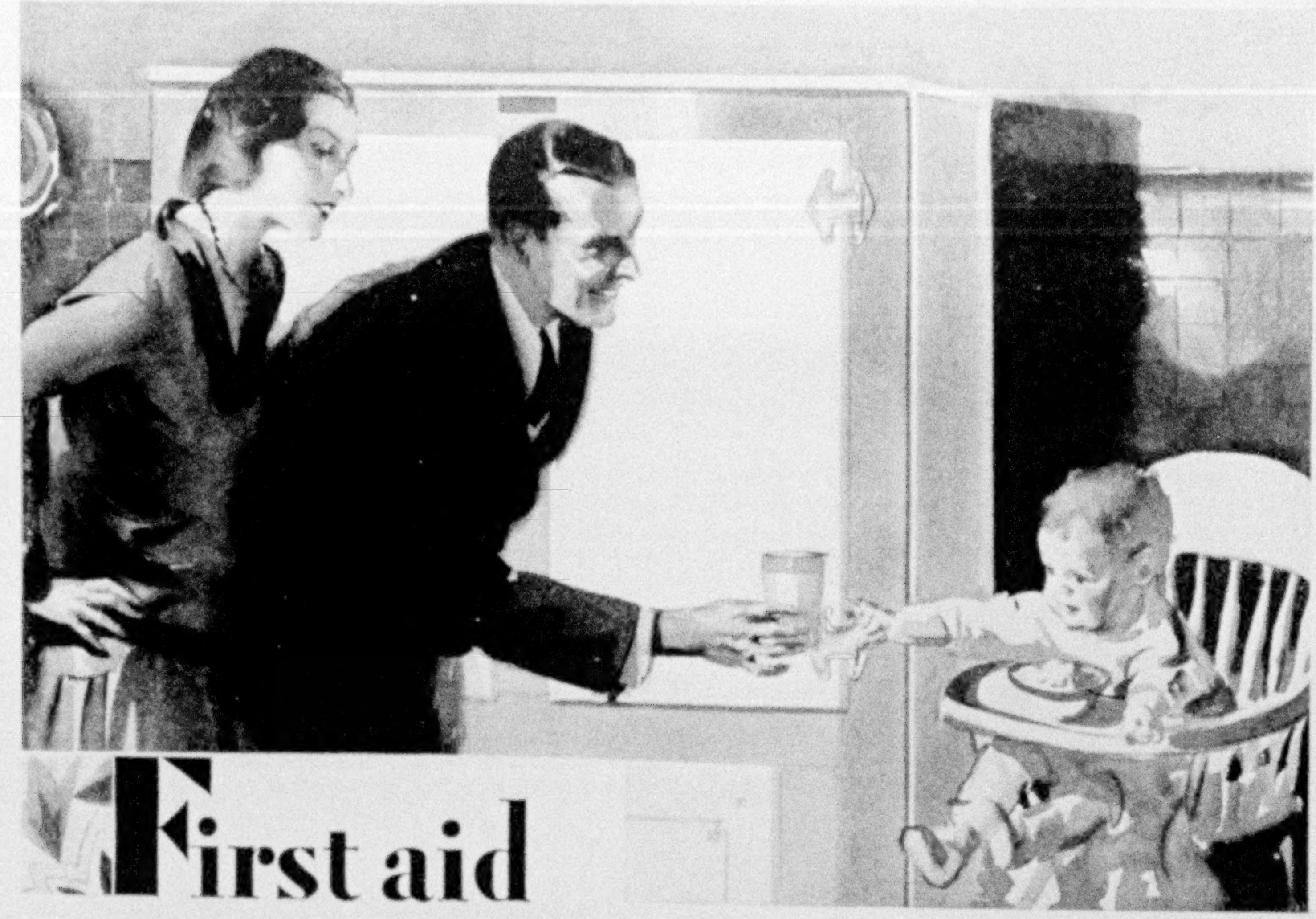
and North Eastern
Railway
OF ENGLAND AND SCOTLAND



First aid

to mothers in safeguarding baby's health

Frigidaire reduces risks that come with sultry days . . . . . .

The Frigidaire Cold Control

A development of Frigidaire and General Motors engineers. Found only on Frigidaire.

"Watch baby's health in summer!" Down through the ages grandmothers passed this warning on to mothers. For with summer came the "critical period."

And mothers faced warm weather with dread. But how different it is today! There's nothing mysterious now about the risks that come with summer. It's simply that foods spoil more quickly and bacteria develop more rapidly. And to meet these risks, health authorities everywhere prescribe better refrigeration.

You can provide this better refrigeration with Frigidaire . . . the automatic refrigerator which is powerful enough to keep food at temperatures well below 50° . . . always.

This surplus power means added safety . . . the difference between certainty and doubt . . . and as more than 750,000 Frigidaire users will tell you . . . a feeling of security beyond all price.

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Safe and unsafe refrigeration explained in free book . . . write for it

We have prepared a new book that explains the dangers of inadequate refrigeration. It is illustrated with photographs taken through a microscope. Mail the coupon for a copy . . . today. Frigidaire Corporation, Subsidiary of General Motors Corporation, Dayton, Ohio.

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Please send me your book on healthful refrigeration, also the Frigidaire Recipe Book.

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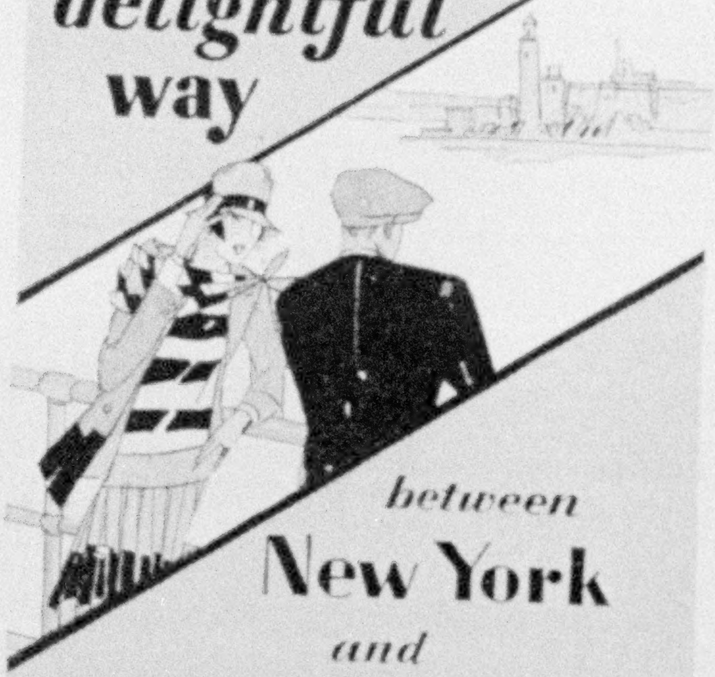
FRIGIDAIRE

The QUIET *Automatic Refrigerator*

By SEA the *delightful* way



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Fortnightly sailings to San Diego (Coronado Beach), Los Angeles, San Francisco, on the NEW *Virginia* and *California* (largest American-built steamers) and popular *Mongolia*. A third new ship, *Pennsylvania*, enters service in the Fall.

REDUCED SUMMER RATES

Round trip, water and rail, $350 (up) 1st class, $225 (up) Tourist. One way, water, $250 (up) 1st cabin, $125 (up) Tourist.

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Where is the loveliness to excel Killarney, Kenmare, Bantry, Glengarriff? Who has not longed to see Cork, the Vale of Avoca, Waterford, Tipperary and the Blarney Castle?

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You can plan the details ahead, and buy your tickets, here in New York, as soon as you have decided where to go.

Guide No. 81, containing full information, gladly sent on request

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Film spreads over teeth

... discolors them ... destroys them

Remove it this special way to keep teeth white and sound.

Please accept 10-day supply free

DENTAL science has studied dull, discolored teeth and traced their cause to a cloudy film that coats them. Then serious tooth and gum disorders have been investigated and their source, in a surprising number of cases, likewise was found to be this dingy film.

That is why the dental profession of today states with such emphasis the warning: Remove film from teeth each day. The way to do it is by the special film-removing dentifrice called Pepsodent.

Please accept your free 10 days' supply to try. Send the coupon.

Look for film this way

Run your tongue across the teeth. If you feel a slippery, slimy coating—that is film. An ever-forming, ever-present evil in your mouth.

It clings tightly to teeth and defies all ordinary ways of brushing. It gets into crevices and stays. It absorbs stains from food and smoking and turns teeth dull and gray. Film hardens into tartar. Germs by the millions breed in it, and germs with tartar are the chief cause of pyorrhea.

Film cannot resist brushing the way it did before. Pepsodent first acts to curdle film. Then to remove it in gentle safety to enamel.

This recent scientific way is the greatest step made in a half century's study of tooth-cleansing methods.

Give Pepsodent 10 days

If teeth are dull, "off color," that is film. If you are prone to tooth and gum disorders, that may be film also. Remove this film and see teeth whiten.

Get a large tube for a few cents at your druggist's. Or write to nearest address below.

Film

that is found by dental research to discolor teeth and foster serious tooth and gum disorders

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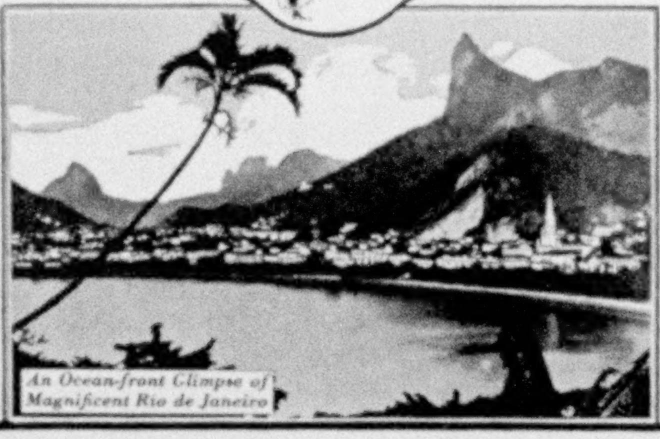

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Total tour cost . . . from $950 . . . includes special entertainment at sea and a comprehensive program of shore excursions.

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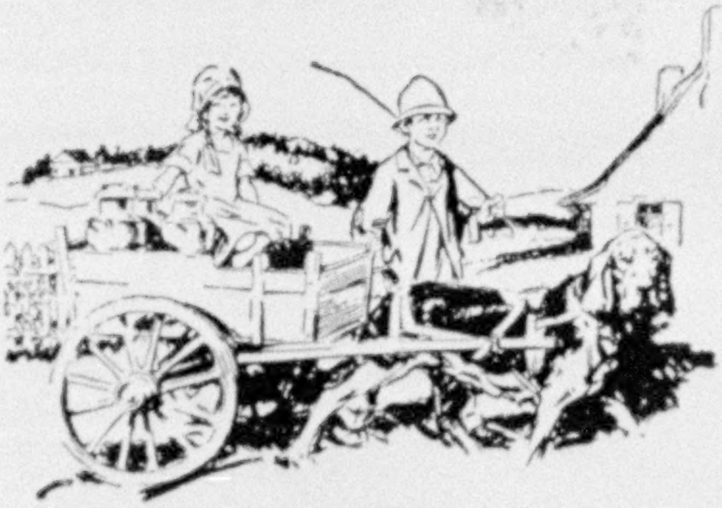
CANADA . . . *an Old World Near at Hand*



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LET the experience of thousands of owners be your guide when buying oil heat. Don't take chances—get the truth from people who know.

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Williams Oil-O-Matic is entirely automatic—unusually quiet—safe—dependable—maintains exact, healthful, economical warmth you desire without work or worry. Let your nearest Williams dealer explain—or mail the coupon below.

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Two Nights Each Week. Williams Sync-O-Matics—Tune in Tuesday on Station WJZ and Associated NBC Stations at 10 o'clock Eastern Standard Time. Williams Mel-O-Matics—Tune in Friday on WGN, Chicago, 8:30 Central Standard Time.

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Please send me a list of Williams Oil-O-Matic owners in my neighborhood.

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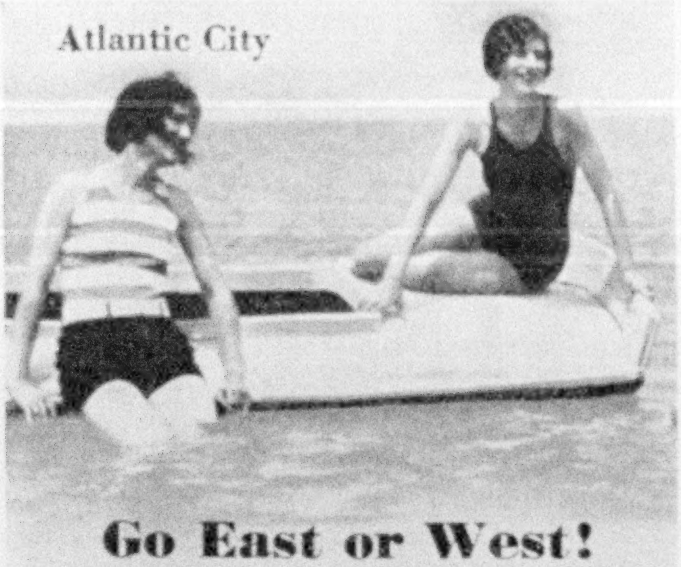

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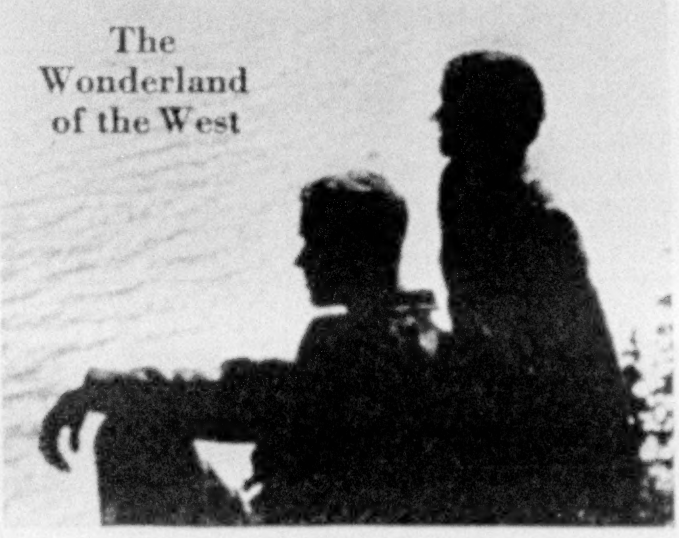
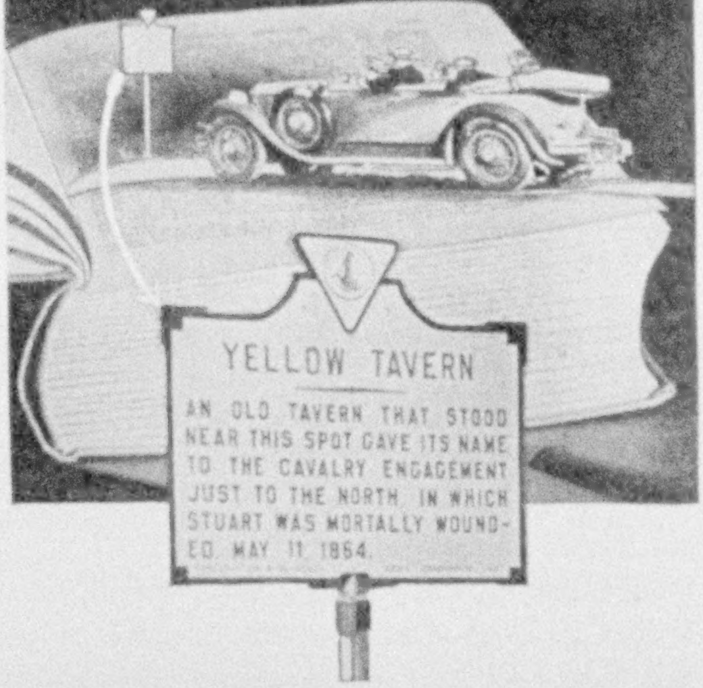

The Wonderland of the West

Roads are White Pages of HISTORY in VIRGINIA


YELLOW TAVERN
AN OLD TAVERN THAT STOOD NEAR THIS SPOT GAVE ITS NAME TO THE CAVALRY ENGAGEMENT JUST TO THE NORTH IN WHICH STUART WAS MORTALLY WOUNDED MAY 11 1864.

TO the motorist in Virginia, his car is an easy chair and the white roads are open pages in the most thrilling history of the Nation.

The State has placed 650 Historic Markers along Virginia Highways. Upon these are written the story of the first colonists—the War of Independence—battles—birthplaces of famous men—the most poignant scenes of the War between the States. In addition there have been marked the many natural wonders of the State, and also notable industrial achievements.

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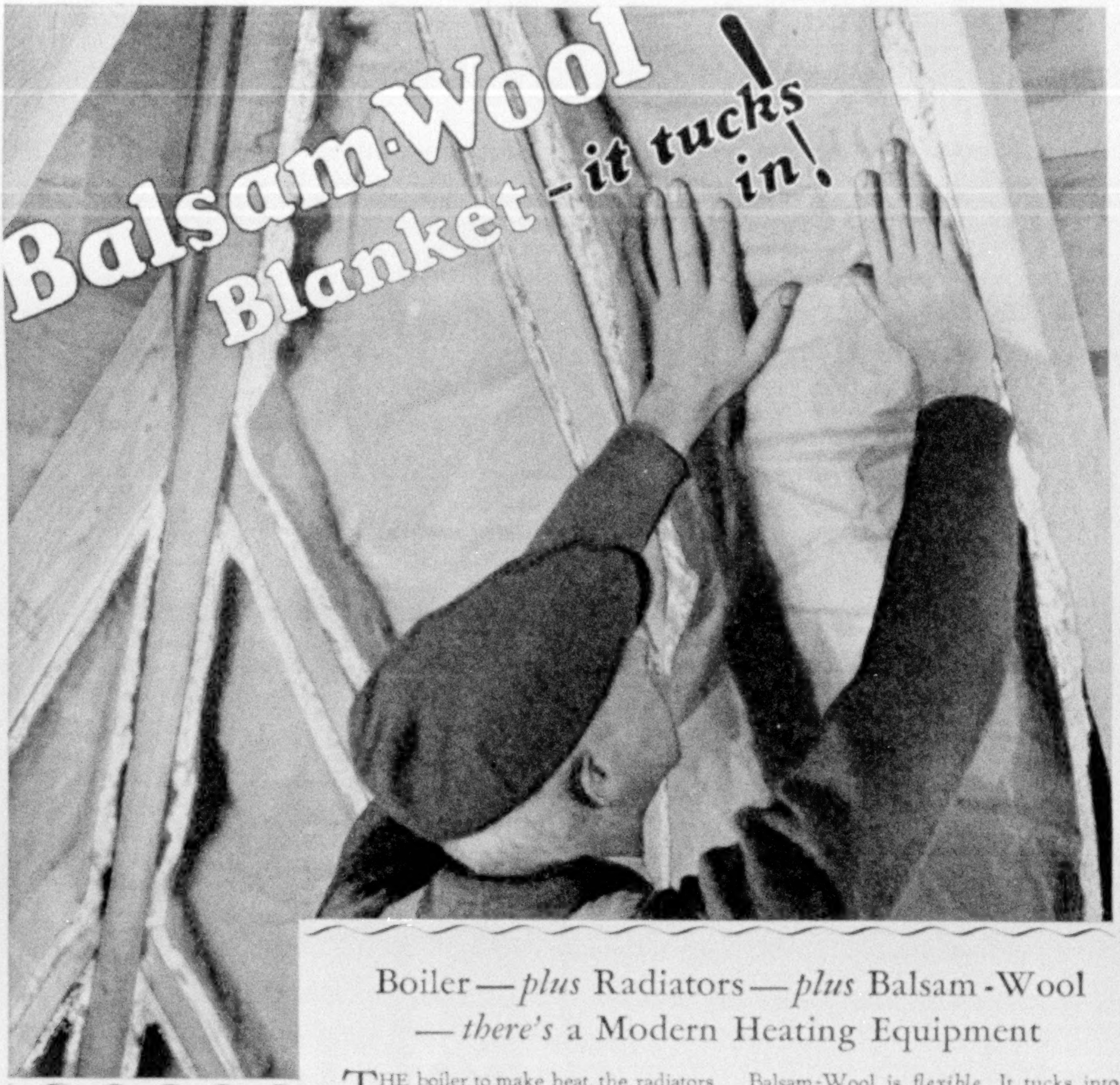
Balsam-Wool Blanket - it tucks in!

Boiler—*plus* Radiators—*plus* Balsam-Wool —*there's* a Modern Heating Equipment

THE boiler to make heat, the radiators to put it in the rooms—the Balsam-Wool Blanket to *keep it in*—there's a *modern* heating equipment.

After all, isn't it absurd to buy a good boiler, feed it expensive fuel and then let a third or more of the heat escape through the walls and roof?

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Balsam-Wool is *thick*—a *full inch* is recommended. Balsam-Wool is not a substitute or "combination" material. It is made to accomplish just one thing—and does it.

Balsam-Wool is sold through established lumber dealers. Send the coupon today for free sample and instructive free booklet.

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Makers of Balsam-Wool, the Flexible Insulating Blanket. Also Makers of Nu-Wood—the All Wood *Insulating Wall Board and Lath*

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Balsam-Wool is a guaranteed Weyerhaeuser product—a blanket of fluffy wood fibre that looks and acts like sheep's wool. It is TRUE Insulation—keeping the house warm in winter and cool in summer—because it is—

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Gentlemen: Please send free sample of Balsam-Wool and booklet "House Comfort that Pays for Itself." I am interested in insulation for

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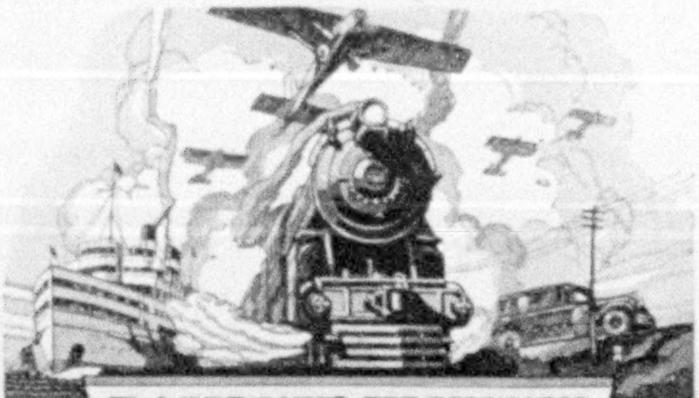

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Packed in our special Variety Box, 20 packages, each labeled with name and color. Also directions and Planting Chart. Import orders must be in Holland soon for Fall planting. Order now.

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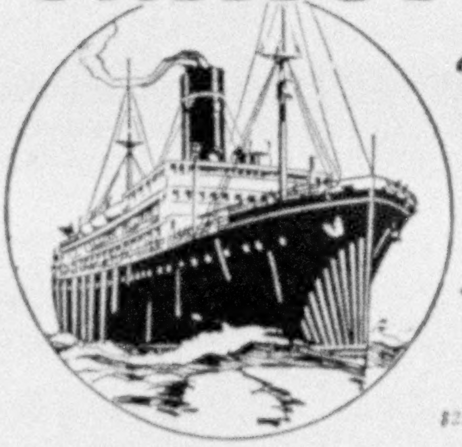

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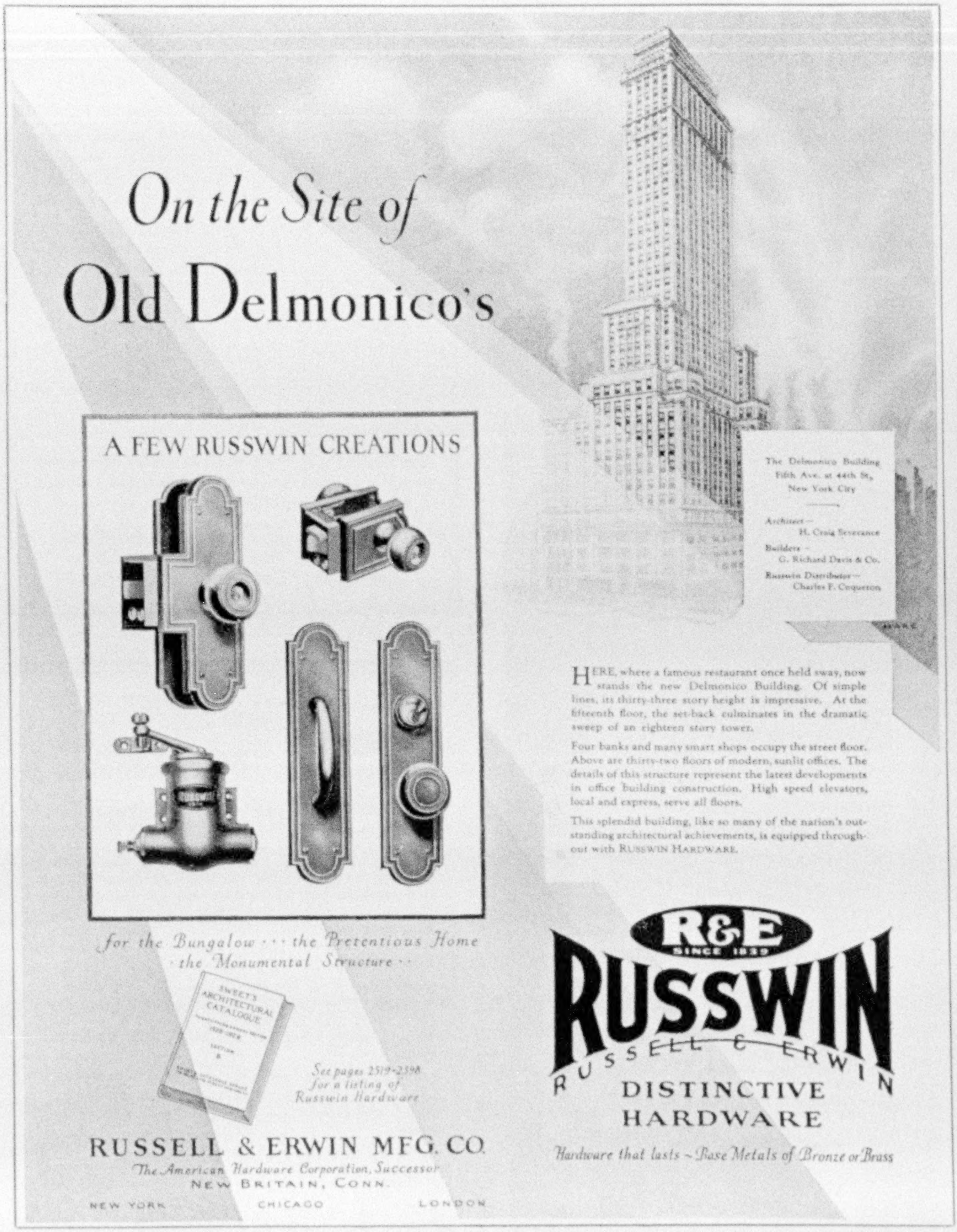

On the Site of Old Delmonico's

A FEW RUSSWIN CREATIONS

for the Bungalow · · · the Pretentious Home · the Monumental Structure · ·

See pages 2519-2398 for a listing of Russwin Hardware

The Delmonico Building
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Architect—
H. Craig Severance
Builders—
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HERE, where a famous restaurant once held sway, now stands the new Delmonico Building. Of simple lines, its thirty-three story height is impressive. At the fifteenth floor, the set-back culminates in the dramatic sweep of an eighteen story tower.

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Hardware that lasts ~ Base Metals of Bronze or Brass

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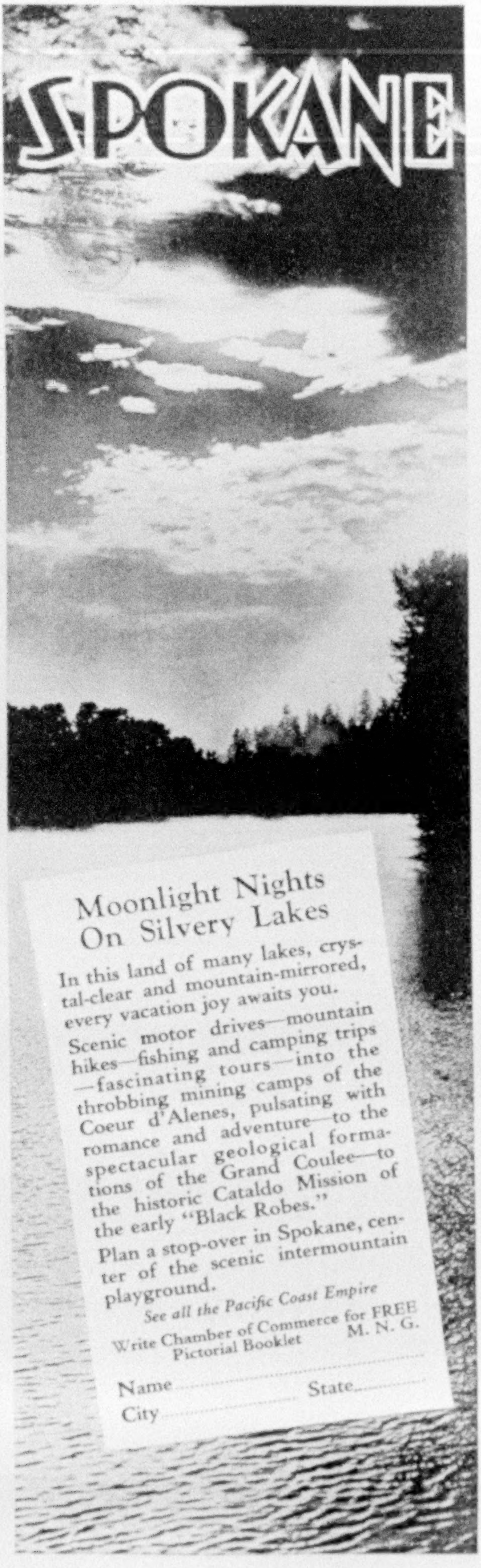

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In this land of many lakes, crystal-clear and mountain-mirrored, every vacation joy awaits you.

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It's the NEW PETTIJOHN'S, a delicious hot cereal that contains whole bran in tender golden flakes of whole wheat.

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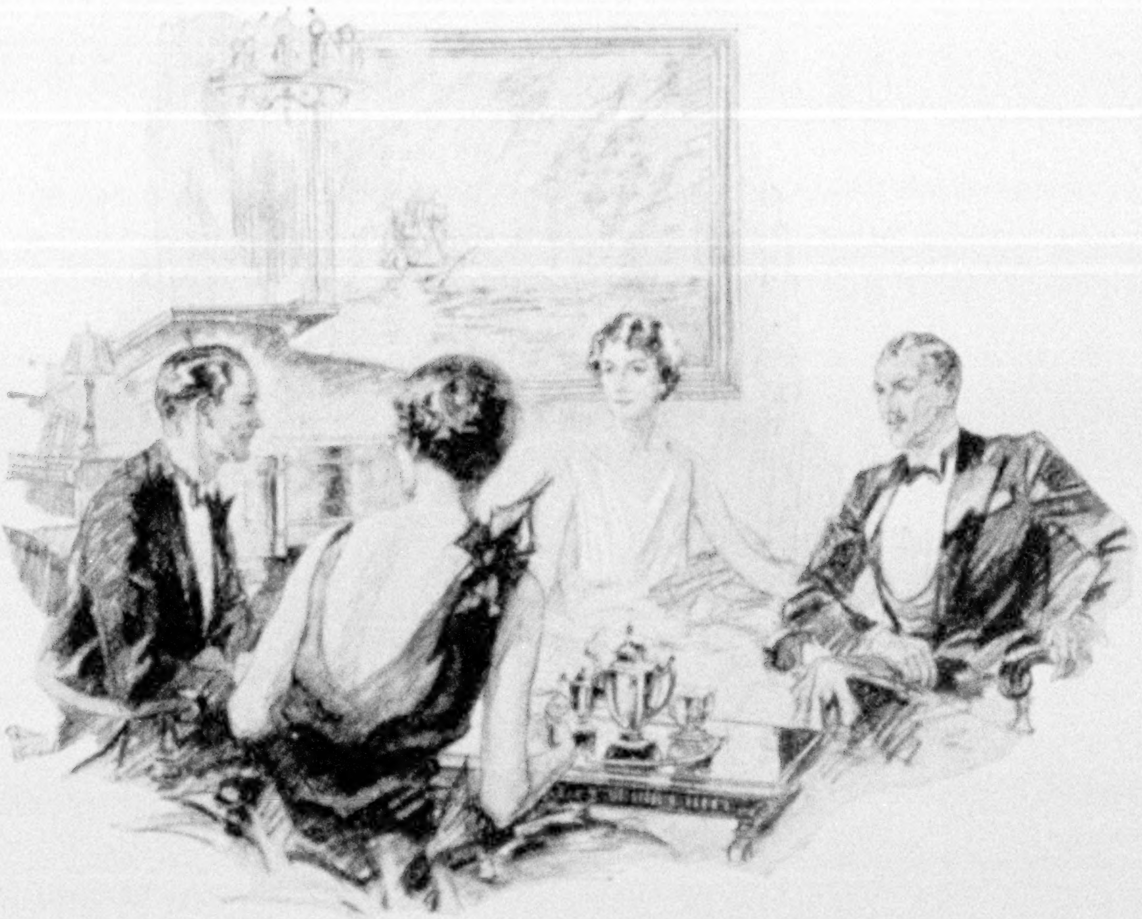

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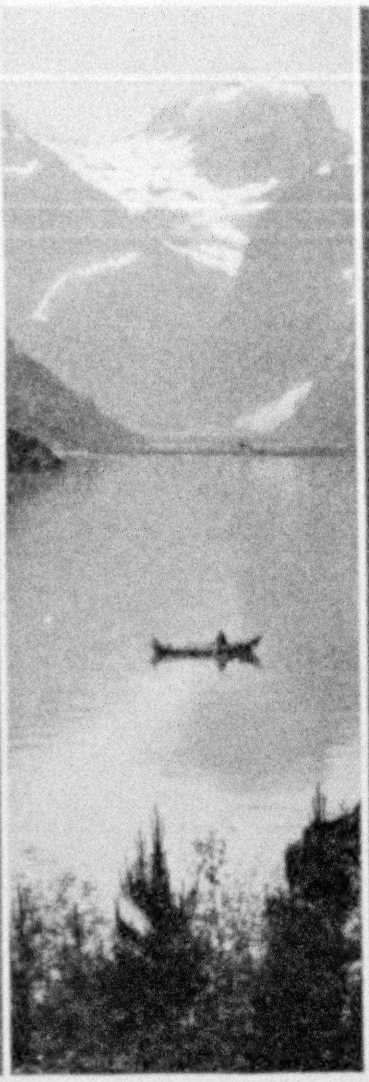

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5-29

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Time was when only a mother's teaching guided us to good taste in the things that make up the home. But today, it seems that a thousand would-be arbiters must din into our ears the "good taste" of the moment.

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We doubt whether anyone ever had to defend the good taste of American Walnut. Its beauty, its ever-varying charm have always made it the favorite of the discriminating. American Walnut was "good taste" a century ago; it will continue to be a century hence.

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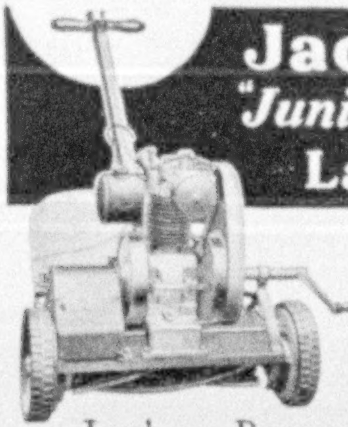

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3-29

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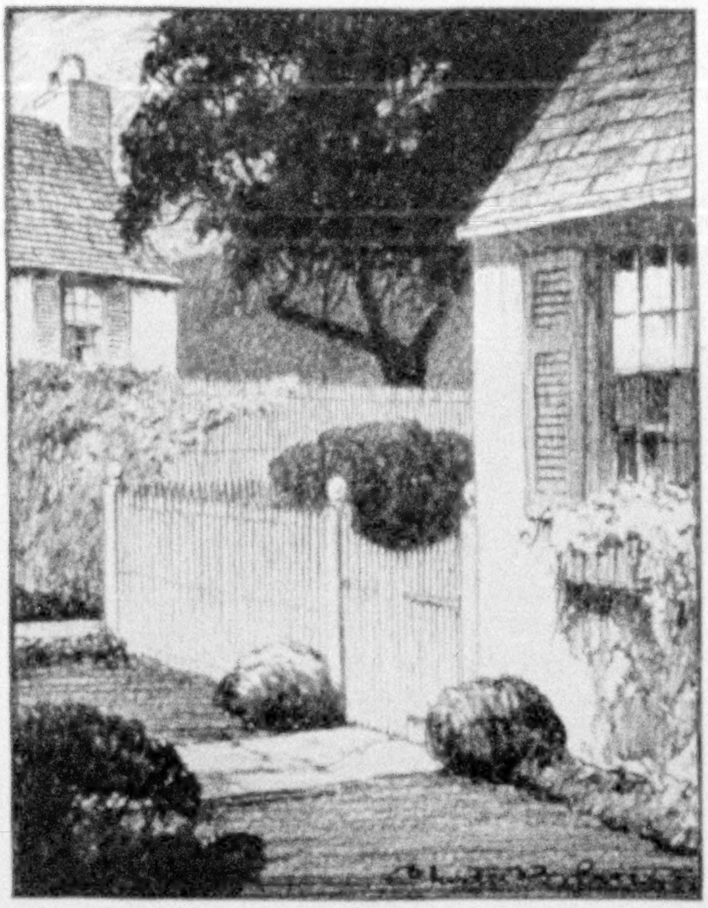

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YOU don't have to move to the country now in order to enjoy outdoor living. Right at your door, wherever there's a bit of open lawn, is a potential haven of rest and delight for you.

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Run your eye over your lawn. Pick out a location for a private garden of your own. Then erect Dubois, and enjoy the peaceful seclusion, the healthful sunlight and air of an outdoor "room", which is exactly what the enclosure will be.

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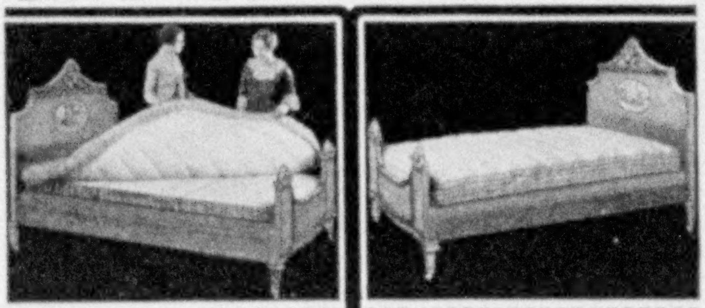

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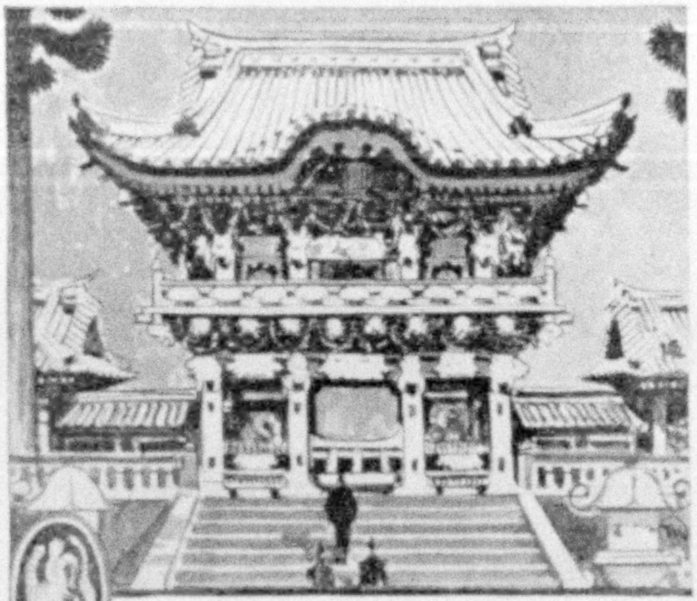

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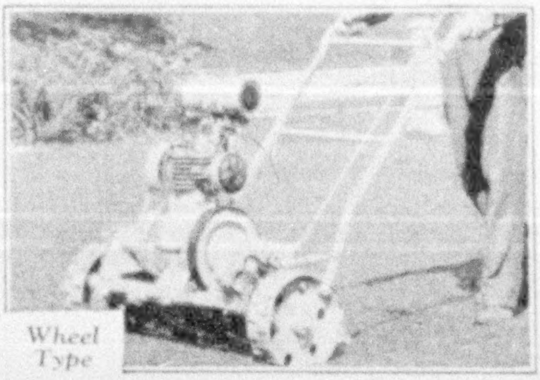

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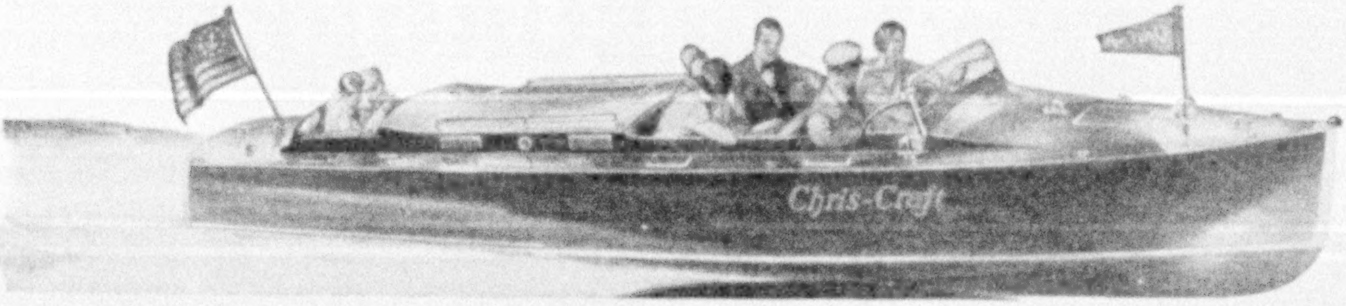

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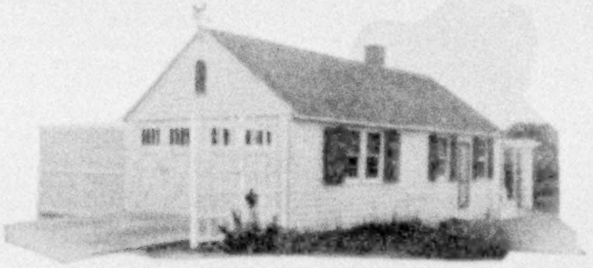

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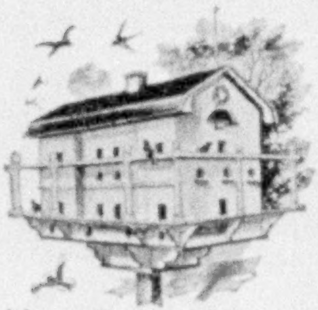

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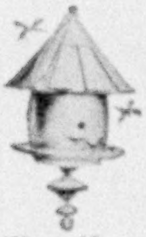

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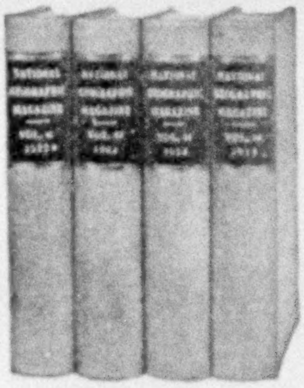

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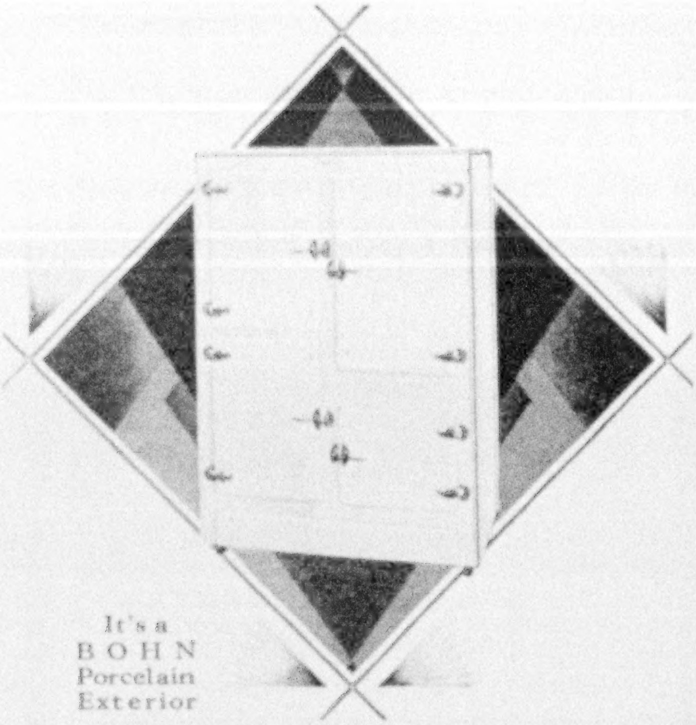

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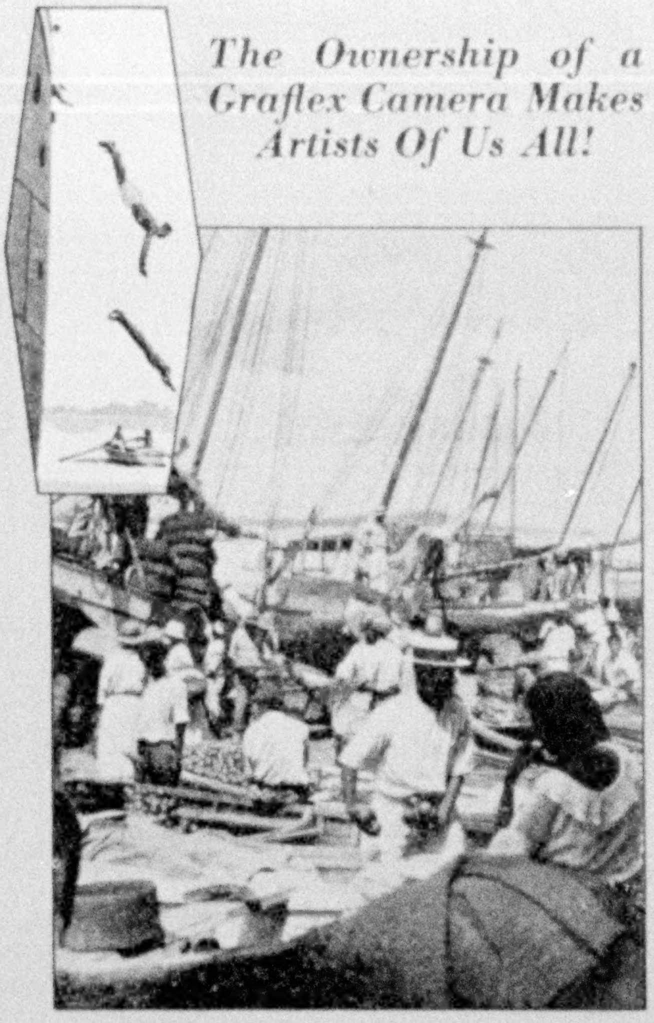

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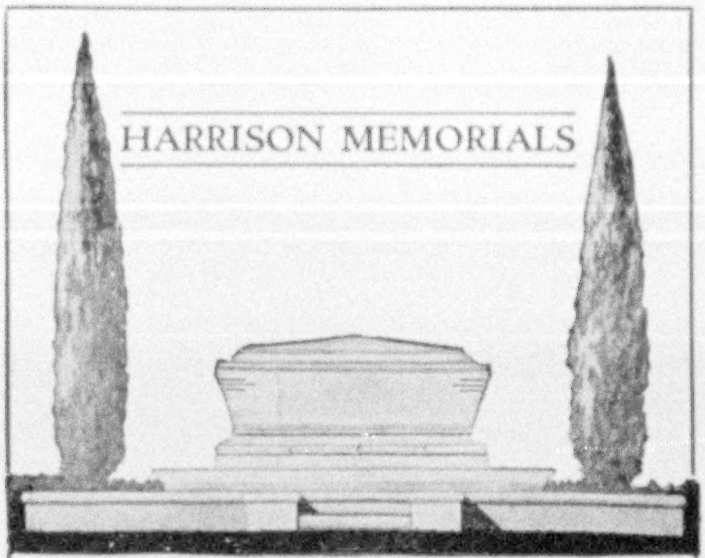

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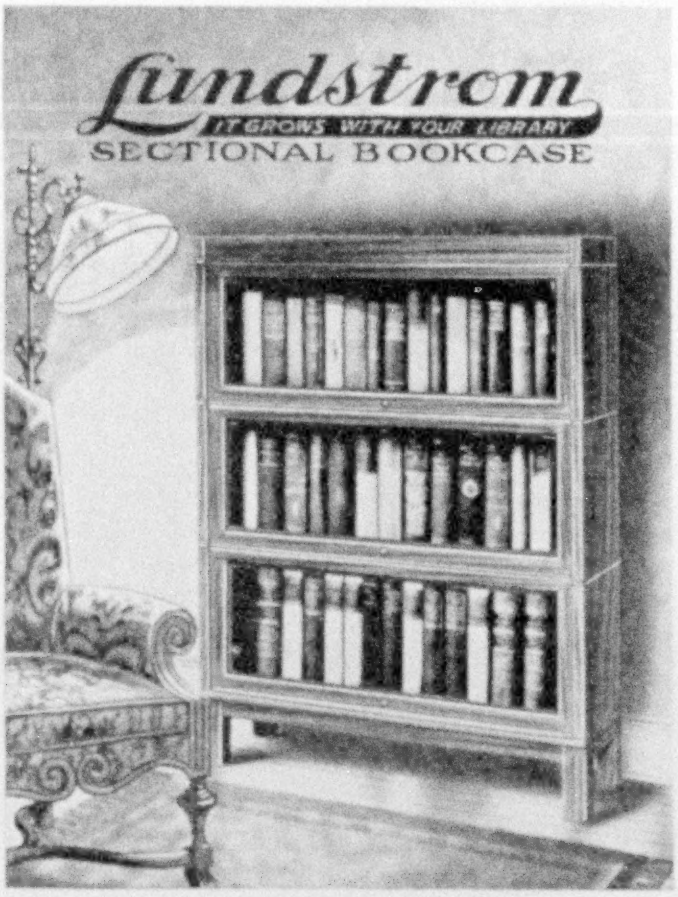

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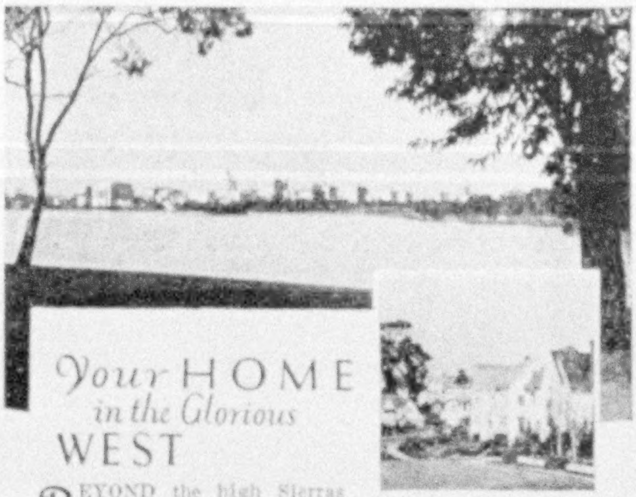

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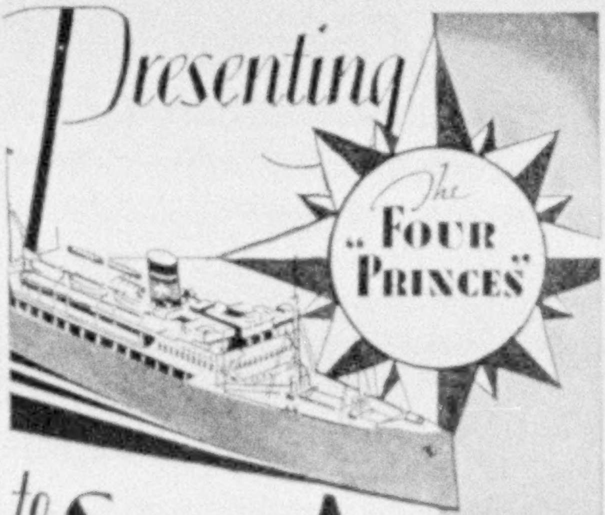

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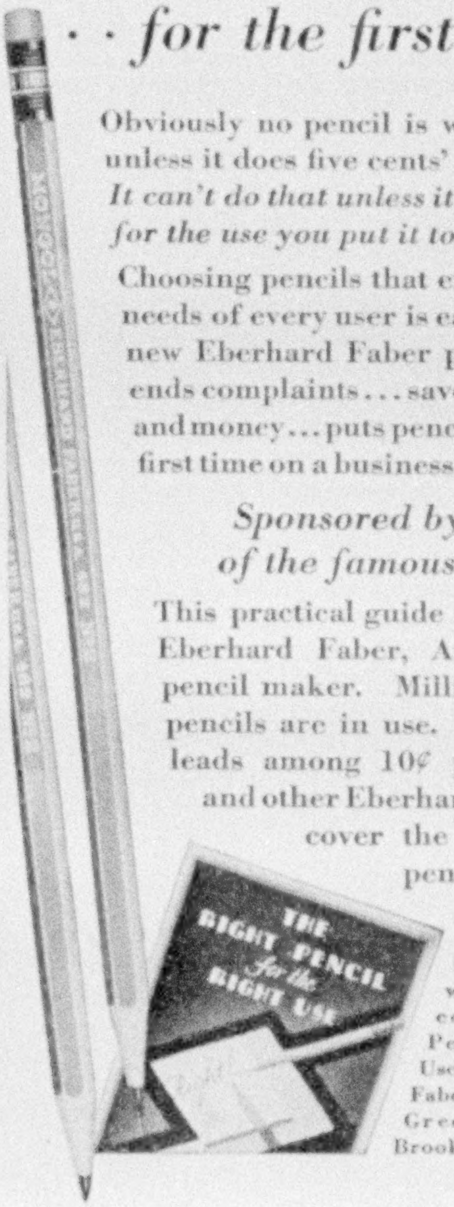
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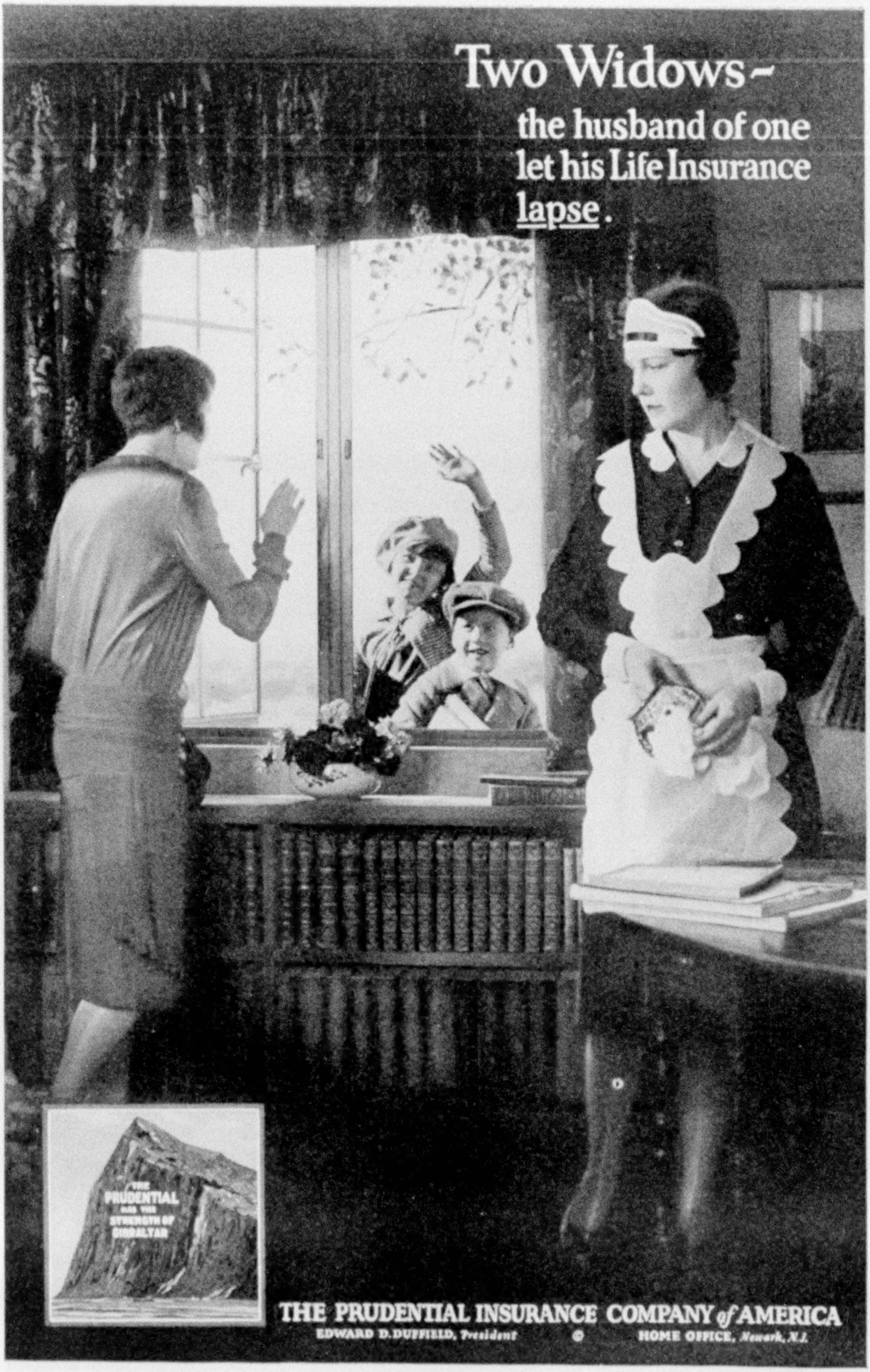
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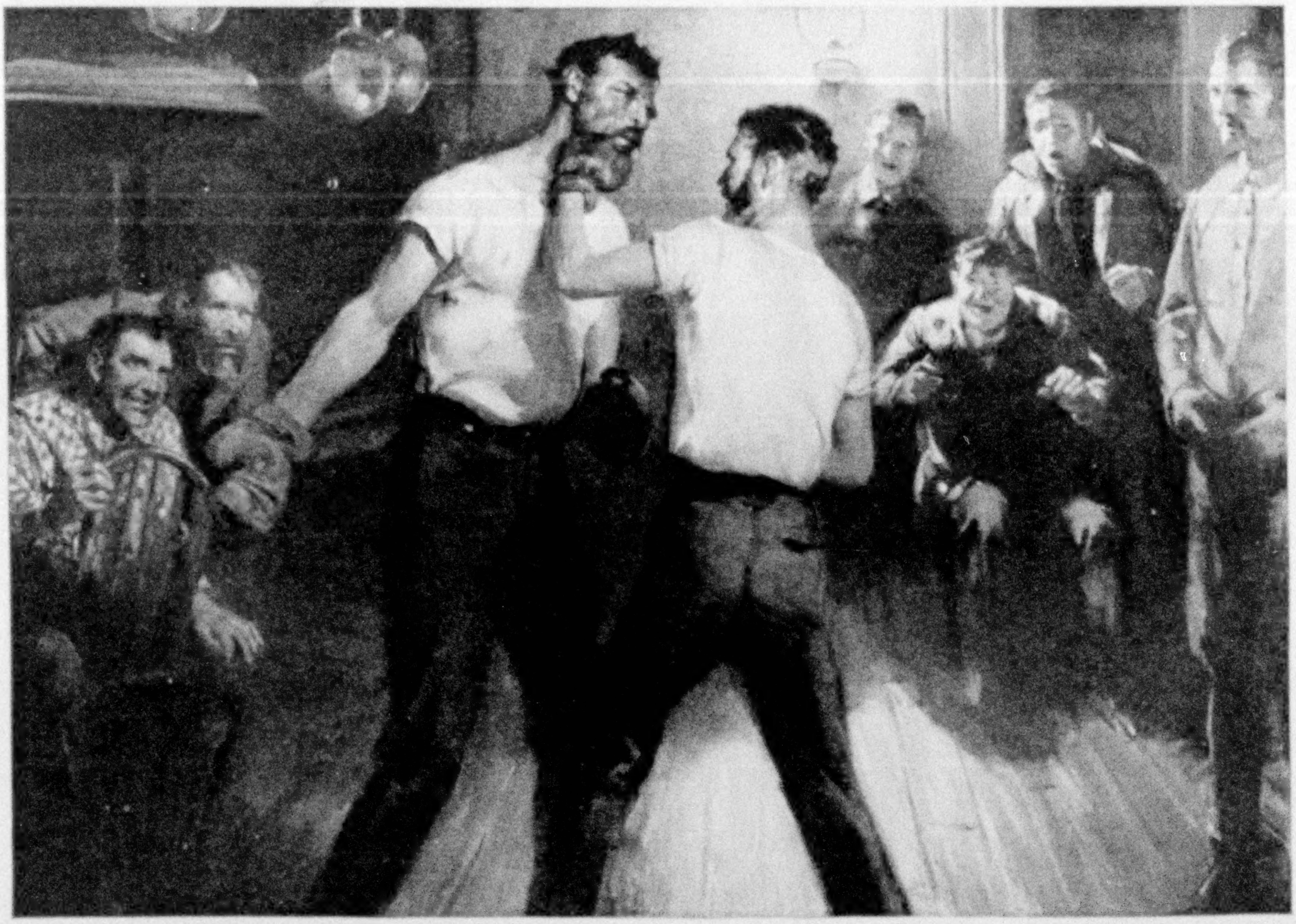

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Important facts about Tuberculosis

Tuberculosis is the progressive destruction of body tissues by germs known as *tubercle bacilli.*

Your doctor can tell you if you have tuberculosis in active form. If you have it, the sooner treatment begins the more surely its progress can be arrested—modern medical science now considers it a curable disease.

Tuberculosis is communicable, but even those living under the same roof with a tuberculous individual may be protected against infection by ordinary precautions.

Tuberculosis is preventable. Its prevention is chiefly a matter of simple hygienic rules, easily followed.

Medical Science is steadily widening its knowledge of tuberculosis. For example, Parke-Davis bacteriologists and chemists are just now assisting in a nation-wide cooperative study of the chemistry of tuberculosis, under the leadership of the National Tuberculosis Association.

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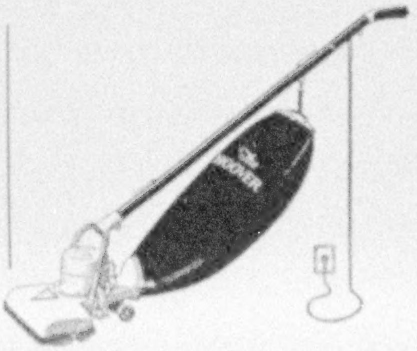

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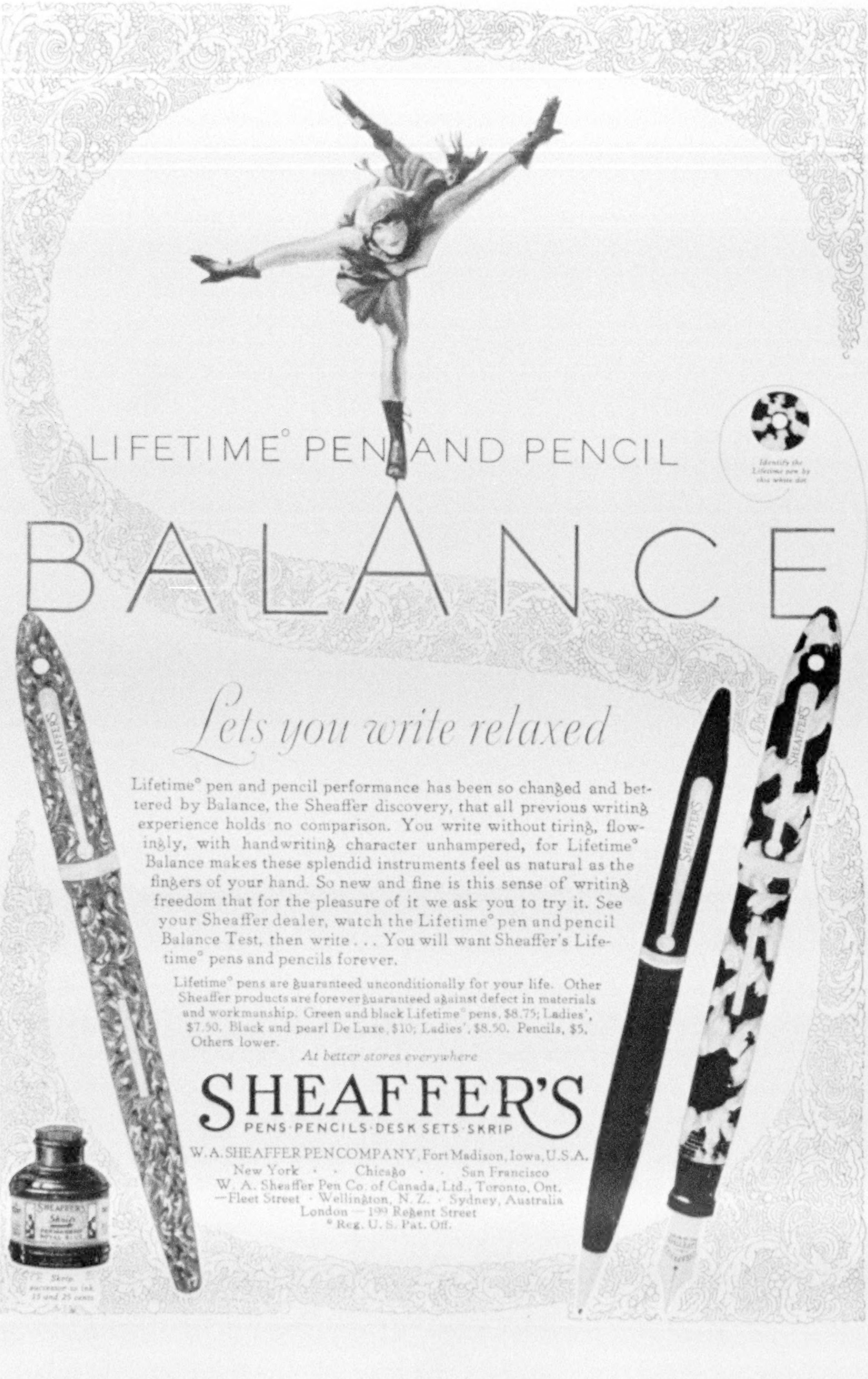

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